Steering the Course

Twenty-First Annual Review
Economic Council of Canada
1984

85-5073/

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Available in Canada through

Authorized Bookstore Agents
and other bookstores

or by mail from

Canadian Government Publishing Centre
Supply and Services Canada
Ottawa, Canada K1A 0S9

Catalogue No. EC 21-1/1984E Canada: $5.95
ISBN 0-660-11724-X Other countries: $7.15

Price subject to change without notice

L'Exposé annuel est également disponible en français sous le titre: *Les relais de la reprise.*

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This report reflects the views of the Members of the Economic Council of Canada. However, comments and reservations by Mrs. Bellemare appear after Chapter 6.

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READER'S NOTE

The reader should note that various conventional symbols similar to those used by Statistics Canada have been used in the tables:

- - amount too small to be expressed
. . figures not available
. . . figures not appropriate or not applicable
- nil or zero
e estimated figures
x data confidential, to meet the secrecy requirements of the Statistics Act.

Details may not add up to totals because of rounding.

Preface

Since the publication of our last Annual Review, entitled *On the Mend*, the Canadian economy has continued to show strength. In our view, however, two issues remain of utmost concern to Canadians: the excessively high rate of unemployment in this country, and the persistence and size of the federal government's budgetary deficit.

There is now a new federal government "steering the course," and it must address those issues. Yet, as we indicate herein, its room to manoeuvre is limited by its obligation to pay interest on the debt outstanding. While the debt load is currently not as heavy as that carried by some of the provinces, the servicing of it nevertheless commands a sizable proportion of federal government expenditures and Canadian tax dollars.

What are the prospects for reducing unemployment and government deficits? How much will this depend on renewed business and consumer confidence, investment, and growth? We take up these issues in this Review.

In Chapter 1 we consider Canada's economic prospects under different assumptions about international and domestic developments. We include projections that confirm the cyclical economic interrelationships between Canada and the United States and indicate fairly healthy growth to 1990, but which also reaffirm the persistence of high unemployment rates and large government deficits.

In Chapters 2 and 3 we look at how government expenditures and revenues have grown over the years and how, over the past decade, slow growth, federal and provincial fiscal decisions, and the worst recession in half a century have contributed to chronic deficits and mounting public debt. This raises questions about the management of the public purse, the choice between borrowing or raising taxes, and about the consequences for the economy. To what extent, for instance, does government borrowing pre-empt personal savings that might otherwise flow into corporate equities and investment?

In Chapter 4 we observe that it was not only governments that overextended themselves financially but also the corporate sector. We also examine the growing international indebtedness of some developing countries, in which Canadian banks have participated extensively. The ratio of corporate debt to assets rose and growing numbers of enterprises found themselves heavily indebted, at high interest rates. Since the recession, the corporate sector has worked hard to increase productivity and to restore balance sheets. Firms have been cautious about new investment. This prudence, along with government expenditure constraints, has meant that recovery has been slower, and unemployment higher, in Canada than in the United States.

Last year we concluded that in the years ahead "the greatest challenge will be to meet the demands of a rapidly changing technology with the skills and efforts of Canadians in such a way as to increase productivity and lower unemployment." In Chapter 5 we take up this issue again, in the knowledge that while much of today's unemployment is cyclically related, a large proportion of it is due to structural and technological factors.

Finally, in the concluding chapter we reaffirm a set of medium-term economic targets for the economy, and consider some alternative strategies for reducing both unemployment and federal government deficits.

Steering the Course

1 The Medium-Term Outlook

The Canadian economy has completed its recovery from the worst recession in the postwar period, and it is continuing to expand. Events in the rest of the world have clearly influenced this recovery. Economic performance in the United States has been strong, and it has lent a powerful stimulus to renewed economic activity in Canada, while the slower pace of activity in other nations has perhaps somewhat tempered the rebound in Canada. One of the legacies of this recent recession is the reminder that the traditional openness of the Canadian economy means that it is vulnerable to external trade cycles and conditions in international credit markets that in turn shape domestic economic performance. But Canada is not alone in this situation. The nations of the world are becoming ever more interdependent within the evolving international economy. In the aftermath of the recession, many countries, like Canada, are having to wrestle with shared problems of high private and public debt, large numbers of unemployed, and the realities of a world facing the effects of technological change.

By international standards, Canada's economic recovery has been robust. Compared with most OECD countries, economic growth in Canada has been better than average. One indication of the strength of Canada's performance has been the appreciation of the dollar relative to many European currencies, though it has fallen in relation to the U.S. dollar. In addition, growth in industrial production has been higher than the average for all OECD countries. Moreover, employment growth has been healthy, and business profits now exceed pre-recession levels.

On the trade account, Canada posted a balance-of-trade surplus of $9.9 billion in the first half of 1984, with exports to the United States alone increasing by some $10.5 billion. This followed the high trade balances of 1982 and 1983. Slower growth in European countries together with a a decline in their currencies relative to the Canadian dollar led to only modest increases in exports to EEC countries. These exports came mainly from the manufacturing and processed goods industries that trade principally with the United States, with exports of motor vehicles and parts in particular increasing from about $10 billion to close to $15 billion. High-technology exports also rose, with the value of telecommunication equipment sales abroad increasing by almost 50 per cent, in part because of U.S. defence and aerospace purchases. Significant growth was also recorded in exports of crude petroleum, wood pulp and newsprint, chemicals, iron and steel, aluminum products, and industrial machinery and equipment.

From late 1982 to mid-1984 Canada's recovery was fueled by other factors as well. In real terms personal consumption is now more than 6 per cent above the level experienced during the trough of the recession. Consumer spending was especially strong for autos and household appliances. During the spring and summer of 1983 vigorous activity returned to the home-building sector, encouraged by incentives contained in both federal and provincial budgets. Inventory stock building added to strength in the initial stages of the recovery. By the spring of 1984, these factors and others helped to push the performance of the Canadian economy above the peak reached in the second quarter of 1981, before the recession came into full force. It is also encouraging that the rate of inflation in Canada appears headed to below 5 per cent. In fact, in some months the rate of inflation, as measured by the consumer price index, has slipped below an annual rate of 4.5 per cent.

These results are favourable. But they are, nevertheless, normal and expected during recovery from a cyclical downturn. There are areas, however, where recovery has not been as healthy as anticipated. They are especially visible when the Canadian experience is compared with that of the United States.

In two areas in particular – the performance of investment, and the persistence of high unemployment rates, notwithstanding the healthy gains made in the number of employed – the Canadian experience has been very different from that of the United States. There, investment activity has recovered strongly, and the unemployment rate has steadily declined from its peak of near 10 per cent at the depth of the recession to the current rate of near 7 per cent. By contrast, through mid-1984 in Canada the unemployment rate persisted above 11 per cent, and real investment activity remained weak.

Moreover, in both the United States and Canada there is mounting concern about the projected size of the federal deficit. In both countries it appears to represent a large percentage of GNE and to be partly

structural in nature. In fact, there is currently a consensus that the weak performance of the U.S. economy in the 1981-82 period did not account for all of the difference between federal revenues and expenditures. The general belief is that if the revenues and expenditures of the U.S. federal government were adjusted to eliminate the effects of the recent business cycle, a substantial federal deficit would remain.

In absolute terms projected Canadian federal deficits are nowhere near as large as those anticipated in the United States at the federal level, although as a percentage of GNE they are similar. Again the consensus is that cyclical factors do not account for the entire deficit and that at full-employment levels of activity there would remain a shortfall of federal revenues in Canada.

One of the important economic factors that shape North American business and personal decisions to borrow, save, or invest is the real rate of interest, defined as the difference between measured interest rates – that is, nominal rates of interest – and anticipated inflation. In both Canada and the United States, nominal rates of interest remain high, having drifted upwards in the summer of 1984. The opposite, of course, has been true for actual inflation, even though admittedly there is some uncertainty about future inflation. The result is that real rates of interest have remained high – a situation uncharacteristic of previous recovery periods.

High real interest rates and persistent large deficits have led to considerable debate. One group asserts that a continuation of tight credit conditions and high real rates might eventually stall the U.S. recovery and continue to hamper the investment climate in Canada. The weakening of the North American economy, along with the need for Canada and particularly the United States to finance large structural deficits, could precipitate another business downturn in 1986.

In the United States, those who hold this view stress the need for a change in the mix of fiscal and monetary policy – with higher taxes, lower defence and social spending, and cheaper money being the key to sustained U.S. recovery. Those who advocate the change in policy mix are also concerned with the problems of Third World debtors and the exposure of North American creditors. They argue that if the policy mix were changed, solutions to the problem of international debt overhang, which followed the collapse of oil prices and the 1981-82 recession, would not need to be as drastic as otherwise.

Another group insists that if monetary policy were relaxed, serious inflation could return in North America. They contend that the current high nominal interest rates indicate that financial markets anticipate that a resurgence of inflation would be brought on by monetary accommodation. Their argument is that without monetary stability an inflation premium higher than the current rate of inflation accurately reflects the price-escalating bias of deficit-driven economies.

Whatever the reality, Canada is somewhat constrained in dealing with deficit and unemployment problems by the international economy, the current policy mix in the United States, and particularly the stance of the U.S. Federal Reserve System. This does not mean, however, that we should not take a hard look at Canadian prospects for the 1985-90 period or consider alternative monetary or fiscal action.

The Base Case Outlook

Our base case projection of the Canadian economy in the medium term offers us a guide to major uncertainties now and for future planning. The base case projection assumes no major changes in domestic economic policy and spans the 1984-90 period.

During 1985 the Canadian economy is expected to continue to grow. But one worrisome characteristic of the base case projection is the growth pause we anticipate in late 1985 or early 1986. This pause is not expected to reach recession proportions. Rather, it is characterized by weakness linked to several of the assumptions in the base case, including the slackening of the current strong performance of the U.S. economy that is expected in 1985. Factors that might contribute to this slowdown in the United States include a reduction in the demand for consumer durables, especially automobiles, from the current high levels and some dampening in U.S. investment activity as a result of tighter credit conditions brought on by failure of the United States to take substantive action to reduce the ballooning U.S. federal deficit. We anticipate that similar adjustments will take place in Canadian markets for durable goods and credit during the same period. The growth pause in 1986 is expected to be followed by three years of expansion, with growth in 1987 and 1988 expected to be a bit stronger than in 1989 and 1990 because of the cyclical nature of the demand for durable goods.

Under these assumptions the base case exhibits the following characteristics (Table 1-1):

- During the 1983-85 recovery period, real growth is forecast to average about 3.1 per cent annually. In late 1985 and in 1986, growth is expected to be much lower. Between 1987 and 1989 we anticipate that real growth will again average

Table 1-1

Selected Economic Indicators (Base Case Projection), Canada, 1984-90

	1984	1985	1986	1987	1988	1989	1990
				(Percentage change)			
Gross national expenditure (1971$)	3.9	2.0	0.7	2.9	3.8	2.8	1.3
Consumer price index	4.9	4.8	4.6	3.6	3.3	3.6	4.3
Labour force	1.5	1.3	1.3	1.3	1.1	1.4	1.4
Employment	2.3	1.6	1.2	1.7	2.0	1.7	1.2
Productivity[1]	1.5	0.6	-0.4	1.5	2.2	1.5	0.3
Real wage rate	-1.0	0.1	-0.2	0.9	2.0	2.2	0.9
Nominal wage rate	3.9	5.0	4.4	4.5	5.4	5.9	5.2
				(Per cent)			
Participation rate[2]	62.8	62.9	63.0	63.2	63.4	63.8	64.2
Personal saving rate[3]	11.2	10.4	9.0	8.6	8.5	8.4	8.5
Unemployment rate	11.3	11.0	11.2	10.8	10.0	9.7	9.8
				(Percentage of GNE)			
Real investment	19.5	19.4	20.3	20.9	20.9	20.9	21.4
Federal surplus or deficit (-)	-6.4	-6.2	-5.6	-5.0	-4.6	-4.7	-4.8
Provincial surplus or deficit (-)	-0.4	-0.4	-0.7	-1.0	-0.9	-0.8	-0.8
Balance of international payments							
Current account	0.4	-0.4	-1.3	-1.1	-1.0	-1.0	-1.4
Energy	2.1	2.2	2.1	2.4	2.8	3.0	3.2
Nonenergy	-1.7	-2.5	-3.4	-3.5	-3.8	-4.0	-4.6

1 Output per person-hour.
2 Labour force as a proportion of the population aged 15 and over.
3 Personal savings as a proportion of personal disposable income.
SOURCE Economic Council of Canada, CANDIDE Model 2.0, July 1984.

about 3.1 per cent. A second period of adjustment is expected to occur as we enter the 1990s.

- These growth rates are significantly below the rate required to lower unemployment substantially. The result is that the unemployment rate is projected to remain in the double-digit range until the latter part of the decade. During the 1987-89 period the unemployment rate will finally drop below 10 per cent.

- Although the unemployment rate will be high, growth in employment will remain strong, except during the adjustment period in 1986. Employment growth will average just under 2 per cent per year during the 1983-85 period and again in the 1987-89 period. The growth rate of employment will remain marginally higher than that of the labour force, accounting for the downward drift in the unemployment rate in the medium run.

- Growth in output per man-hour – or labour productivity – is projected to be about 1 per cent annually until after the mid-decade growth pause. During the 1987-89 period it could average just a little less than 2 per cent per year. This improvement in performance late in the decade is considerably better than the outcome of the late 1970s and early 1980s, when labour productivity growth came to a standstill.

- Real wage growth is expected to stay flat until after the mid-decade growth pause, at which time gains in labour productivity could be translated quickly into gains in real wages, thus restoring the upward growth in income standards that was so elusive in the late 1970s and early 1980s.

- A weak labour market during the 1984-86 period and strong gains in labour productivity during the 1987-89 period will help to contain growth in prices below 5 per cent and in wages below 6 per cent. Compared with the 1970s, wage and price performance is much less inflationary.

- The personal saving rate is not expected to fall below 10 per cent until mid-decade, and the ratio of investment to gross national expenditure as a yearly average is not anticipated to exceed 22 per cent during the projection period. This high saving and low investment situation is worrisome.

- The absolute level of the federal deficit is not anticipated to change much in the medium run. If no direct action is taken to reduce it further, we anticipate that the ratio of the federal deficit to GNE will drift downward to just below 5 per cent. Stronger or weaker economic performance, or changes in policy, could alter this outcome, however.

- The favourable current account balance that appeared in 1983 is expected to deteriorate to a

deficit balance of between 0.5 and 1.5 per cent of GNE in the medium run.

The two most worrisome aspects of these anticipated features are: the persistent high rate of unemployment, and the prevailing high deficits. These, along with the possibility of a growth pause just after mid-decade and the weak investment performance that has prevailed since the 1981-82 downturn, should help to focus the policy debate more sharply. Before exploring in detail the events that might increase or reduce the urgency to deal directly with these issues, let us consider the external environment, energy, and domestic fiscal and monetary policy assumptions upon which the base case depends.

The External Environment

Economic expansion in the United States is expected to continue through 1984 and into 1985 (see Table A-1). But a key feature of the outlook for the United States is the pause in the current expansion in late 1985. Real growth in GNE is expected to average above 6 per cent in 1984 and then to drop to near 3 per cent in 1985. In the medium run, real growth in the United States is expected to average about 3 per cent.

The recovery in the United States has been fueled by spending on housing and consumer durables, especially automobiles, followed by substantial advances in business capital formation. In 1984 we expect growth in real business capital formation in the United States to average about 15 per cent. Inventory accumulation will also contribute to real growth. In the medium run, although we do not expect a continuation of the current high growth rates, both residential and nonresidential investment will remain significant factors in final demand growth, though perhaps less so during 1986 and 1990. Numerous factors also support the business investment growth profile. The anticipated improvement in profitability, U.S. government policies to stimulate research and development, new accelerated depreciation schedules, favourable demographic trends, and deferred demand in housing will carry investment growth rates higher than the rate expected for GNE.

But a number of factors, such as the continuation of tight credit conditions and large federal deficits, are expected to contribute to downward pressure on the U.S. growth rate in 1985. Although we anticipate no massive disruption of domestic or world credit markets as a result of the Third World debt and only modest upward pressure on interest rates, high real interest rates are anticipated to continue to mid-decade and to lead in 1986 to a reduction in investment activity. In part, the high interest rates are a reaction of the U.S. Federal Reserve to the deficit-financing needs of the U.S. federal government and to anticipated pressure from prices and wages. In addition, normal stock adjustment factors are expected to appear in the later stages of the business cycle in the United States. The projected result is a pause in 1986, when real growth falls below 1 per cent. From 1987 to 1989 we anticipate healthy growth, followed by a growth pause in 1990.

We have also included the cuts in defence and nondefence spending of $100 billion (U.S.) and tax increases of $60 billion that have recently been at the centre of the fiscal debate in the United States. Collectively these have come to be known as the "down payment" package, although, as of October 1984, not all of the details had been passed by both the Senate and the House. We have further included some additional fiscal items in our set of assumptions about the U.S. economy. We have explicitly assumed the partial indexing of U.S. personal tax brackets at 2 percentage points less than inflation from 1985 onward. Also, a $20-billion personal income tax surcharge and a $10-billion corporate surcharge are judged to be imposed from 1986 on. During the latter part of the decade we also expect some further moderation in defence spending.

These supplements to the "down payment" package in the 1985-86 period are likely to contribute to cyclical weakness in 1986. Furthermore, despite the package and the additional tax increases and spending reductions, the U.S. federal deficit is expected to remain between $170 billion and $230 billion for most of the decade. Upward pressure on the deficit will also come from debt servicing charges – the result of a rising stock of debt and high interest rates. This large deficit is a serious problem. After 1986, however, the U.S. deficit as a share of GNE is expected to decline, which implies that a smaller share of domestic and foreign savings will be needed to finance it. Reduced government cash requirements could mean less pressure on interest rates and a decline from the peak anticipated in 1986.

Price performance in the United States has been, and will continue to be, a bright spot. The decline in the rate of inflation – measured by the consumer price index – from 10.4 per cent in 1981 to 3 per cent in 1983 has been an important factor in the U.S. recovery. For the remainder of 1984, price pressures will be moderate, partly the result of minimal oil price increments and good productivity performance. In 1985 some energy price pressures could emerge as a result of the Natural Gas Policy Act, which at that time will decontrol a large proportion of natural gas

production. The overall weakness of the economy in 1986 and the subsequent temporary reduction in the scale of operation of the manufacturing sector could bring some productivity adjustments in 1986. Furthermore, improved profit positions and lower unemployment rates, providing both job security and some pressure for wage increases, could push inflation rates close to 6 per cent in the 1988-90 period. These pressures may be dissipated by better productivity performance and higher capital investment per worker.

We expect a moderate restoration of growth in the economies of Canada's European trading partners and Japan. Their industrial production is anticipated to increase by 4.9 per cent in 1984, with growth rates averaging 2.8 per cent for the remainder of the decade. Within this broad picture, performance varies widely between countries, and continued high levels of unemployment are causing serious concern. For example, Italy and West Germany will exhibit stronger growth than the United Kingdom and France, but many countries will have difficulty reducing unemployment. Performance in Japan, where we anticipate that industrial production will increase by an average of 3.4 per cent annually from 1985 to 1990, is much reduced from earlier periods.

We anticipate some recovery in commodity prices, with small real price gains expected for grains and forest products. Implicit in these assumptions and those related to the future growth of trade with our major trading partners is our view that present protectionist rumblings will gradually abate, with no major effects on current international channels of commerce.

In conclusion, the current situation of high real interest rates, large deficits, and a substantial Third World debt overhang suggests a period of variable growth. The expected medium-term pattern covers two years – 1986 and 1990 – when growth is projected to slow substantially. These pauses in growth are a reflection of the typical business cycle pattern that we expect will evolve during the remainder of this decade. The growth pattern in 1986 and 1990 may, of course, be augmented or reduced by unforeseen domestic or international events, including new policy initiatives. In the remaining years growth will be above-average or average.

The Energy Assumptions

This Council is now in the final stages of preparing a detailed comprehensive report on the energy situation in Canada. For this Review, however, the base case was prepared using existing energy policy as the guiding principle.

In the light of today's excess capacity of world oil, we anticipate that the international price of crude petroleum will fall in real terms in 1984 and then stabilize in 1985-86. In the 1987-90 period we expect real increases in the international oil price of about 0.5 per cent per year. With this as background, we expect that the domestic wellhead price for conventional "old" oil will remain at $29.75 (Cdn.) per barrel in 1984-85, as set forth in the June 1983 amendment to the energy agreement between the federal government and Alberta. At that time it was agreed that the conventional "old" oil wellhead price would remain at $29.75 per barrel until there was sufficient movement in the international price to permit an adjustment to the wellhead price, not exceeding the cap of 75 per cent of the world price at Montreal.

Our expectation is that movement in the world price will be sufficient by 1986 to permit an upward adjustment in the domestic wellhead price (Table A-2). Thus from 1986 to 1990 the domestic wellhead price is projected to increase by about $1.90 (Cdn.) per year but yet remain at the 75 per cent cap. This contrasts with the new oil reference price (NORP), which is set in the base case at 100 per cent of the international price at Montreal, less transportation costs.

The price that the consumer pays is now, and will continue to be, substantially higher than the price received by producers at the wellhead. In fact, by the end of the decade we anticipate that the price paid by consumers will not differ much from the international price at Montreal. The wellhead price, aside from transportation costs, will continue to differ from the international price, however, by the Canadian ownership charge of $1.15 per barrel and the petroleum compensation charge, which finances the subsidy paid on imported oil as well as oil that receives the new oil reference price. In our supply and demand assumptions, imported oil and oil receiving the new oil reference price increase their share of total oil consumption, which itself is declining as a share of total energy consumed. With the cap still in effect, the petroleum compensation charge remains in effect.

We expect natural gas prices at the wellhead to increase at rates consistent with the June 1983 amendment. In response to the weakness in the international price of crude petroleum, the price of natural gas is maintained at 65 per cent of the BTU-equivalent price of oil until the end of 1984 by deferring the increments to the wellhead price and excluding the natural gas and gas liquids tax. After 1984 and until the termination of the present energy agreement in 1986, the scheduled increments are implemented only partially.

Although at this early date it is difficult to formulate the details of any agreement that might evolve after 1986, as with oil prices, we have maintained the spirit of the current agreement for the 1987-90 period and assumed the 65 per cent price parity between natural gas and domestic oil. In addition, the assumed domestic natural gas price to consumers also includes the Canadian ownership charge of 14 cents per gigajoule.[1]

Our outlook takes into account the projected supply of, and demand for, oil and gas.[2] Oil from conventional sources is anticipated to decline steadily, even including capacity that is currently shut in. This reduced supply of conventional oil is supplemented by several sources. The Syncrude expansion is expected to add capacity by 1987, while enhanced recovery techniques will yield additional capacity from conventional old oil. We have also assumed the addition of one more oilsands plant (Canstar), though production will not come on stream until the early 1990s. Thus the additional supply will not be available within the time frame of the base case projection. Nevertheless, the additional investment has an impact on general activity levels in the late 1980s.

With the extensive incentive program now in place, we also anticipate additional oil to come from new conventional production from nonfrontier reserves. Production from Hibernia is assumed to begin in 1988, pending a resolution of the jurisdictional dispute between the federal government and Newfoundland. Other frontier supplies are anticipated to contribute only marginally, with production expected to begin after the end of the decade.

We anticipate that total demand for domestic crude petroleum will decline only marginally during the projection period. Filling the gap in total domestic energy requirements will be other energy forms, particularly natural gas. Demand for natural gas is expected to increase about 3 per cent annually, with consumer demand growing at a somewhat faster rate.

Coupling the demand profile with the supply picture indicates that oil imports will increase from their present low levels and then decline to near zero by mid-1990 as additional domestic supply comes on stream. Exports will gradually decline by the end of the decade. Natural gas exports are expected to reach authorized volumes sometime between 1986 and 1988. Exports to Japan are assumed to begin in 1988 and will grow to 150 petajoules a year by 1990.

Our investment assumptions include spending related specifically to federal and Alberta participation in the petroleum incentive payment programs introduced in the National Energy Program (NEP), as amended in June 1983 (Table A-3). Additional expenditures connected with the federal government's programs to encourage off-oil substitution for oil and the broader acceptance of other energy sources such as natural gas have also been included in our assumptions. In view of the need for an expanded electricity distribution system after the current period of weak activity, we have provided for real growth in public utilities' investment of about 2 per cent annually.

Along with oilsands developments, we have also provided for construction of the remainder of the Alaska Highway gas pipeline. We anticipate activity will begin in 1986 and peak in 1987 and 1988. Increased conversion to nonoil sources, such as natural gas, will be facilitated by the completion of the Trans-Quebec-Maritime pipeline to Quebec and the Maritimes. With increased activity off the east coast, substantial expenditures will be required to develop the infrastructure needed to deliver gas to market sources. Our assumptions also include expenditures for exploration and development in the Beaufort Sea and the Mackenzie Delta, and off the east coast, as well as for new conventional sources in nonfrontier lands.

Domestic Fiscal and Monetary Policy Assumptions

No new taxes, spending, or substantive deviations from the existing focus of monetary policy form a part of the base case. Rather, we have followed existing legislation as set out in past budgets and energy agreements. We have included the scheduled federal increase in the manufacturing sales tax in late 1984 and the phased changes to the federal personal income tax in the period 1984-86 (Table A-4). Both of these changes form part of the special recovery tax program outlined in the April 1983 federal budget. We have also accounted for items contained in recent provincial budgets.

We anticipate that the federal cap on indexation will be removed in late 1984; but because inflation is expected to hover below 5 per cent, no transition pressures result from the expiration of the federal "6 and 5" program. We have constrained public sector compensation to a 5 per cent growth rate during the 1985-90 period. We have also anticipated restraint in government purchases of goods and services to varying degrees by each level of government. For example, at the federal level the increase in purchases of goods and services is assumed to average 1 per cent annually throughout the period. Provincial government expenditures on goods and services have been limited to grow no more than 1.7 per cent annually during the 1985-90 period, while municipal and local government purchases have been held to

growth of no more than 0.4 per cent per year. And growth in overall spending for personnel in primary and secondary education declines by 1 per cent per year in real terms.

All these factors lead to only a slight reduction in the federal deficit as a proportion of GNE. This, of course, may not be the way that things will turn out, as future budgets may bring new fiscal measures to deal with the deficit, or unforeseen world events may bring changes to international capital markets. Thus, assuming that current legislation prevails, this puts a larger burden on monetary policy in the medium run than might turn out to be the case.

For our present purposes we anticipate that the Bank of Canada will remain devoted to containing additional increases in Canadian real interest rates. We also realize that the Bank of Canada must operate in a North American credit market and must also respect orderly conditions in the market for the Canadian dollar and for domestic credit. But as there is a high degree of substitutability between Canadian and U.S. financial assets and a high degree of capital mobility between the two countries, the Bank may have little room to set domestic policy within the existing institutional framework. Given the prospect of large deficits on both sides of the border, these concerns may lead to choices that are regarded by some as less attractive. The net result could be an upward drift in nominal rates of interest in response to a tightening of credit markets in the United States, reaching a peak in 1985-86 and declining afterwards.

Uncertainties

Inevitably the actual performance of the Canadian economy could turn out to be somewhat different from the projections in the base case. There are clearly several uncertainties.

One important area of uncertainty external to Canada is the future policy mix that might be adopted by the United States. The debate continues about how, and by what amount, the U.S. federal deficit might be reduced, and according to what timetable. Much pressure was put on the Reagan administration at OECD ministerial meetings and at the London summit in June 1984 to reduce the U.S. deficit and lower interest rates. More recently, Canada, as well as others, has argued that the current policy mix in the United States should be shifted towards easing monetary policy and tightening fiscal policy. Many OECD countries contend that such a change would not only help the United States sustain the current recovery but would also help maintain order in fragile Third World debt negotiations and benefit Canada by facilitating a shift in Canadian policy mix.

Thus things could work out for the better. Additional fiscal measures could be adopted in the United States, permitting a reduction in interest rates there of 2 to 3 percentage points. This would eliminate the upward drift in U.S. interest rates in 1985-86. Although the cyclical adjustment pattern for the United States in 1986 would persist, the severity of the adjustment at the end of the expansion would not be intensified by tight credit conditions. This would, of course, benefit Canada, as the Canadian growth pause will be closely linked to performance in the United States.

Alternatively, although the possibilities are remote for as massive a deterioration of credit conditions as occurred in 1980-81 when interest rates peaked in Canada at nearly 20 per cent, the current situation could degenerate to a much poorer one than is represented in the base case if the wrong choices are made. For example, if the U.S. down payment package of $160 billion were not as effective as anticipated and the additional fiscal measures assumed in 1985-86 (less than full indexation of U.S. personal tax brackets with personal and corporate tax surcharges) did not materialize, U.S. interest rates might peak near 15 per cent in late 1985 and early 1986. In this case the U.S. federal deficit would be substantially above $200 billion. On top of the cyclical correction that we already anticipate for 1986, this could bring the U.S. economy to a standstill and move North America into recession for the third time in six years. For Canadians, such a situation would be a severe setback, for although the Canadian economy is expanding, it has not yet gained strength in the key area of investment. Another credit crunch in late 1985 and early 1986 could easily send Canada into another period of recession since, given the high degree of mobility of financial capital between the two countries, it is difficult to insulate Canada from credit market developments in the United States.

The base case projection shows weak investment spending in the near term. In the medium run, performance is also much less robust than in either the 1960s or the 1970s. The actual outcome could be better or worse. In particular, the fiscal choices made in both the United States and Canada, including the implications for monetary policy, will have a bearing on the outcome.

The fragility of business investment in Canada is a problem even without the compounding effects of imported high real interest rates. Resource industries and electrical utilities are reluctant, for a number of reasons, to initiate spending plans for capacity expansion. Current low levels of capacity utilization, the high cost of financing, unfavourable demand conditions on world markets for raw materials, and

weak international oil prices are only a few of the factors that have depressed the investment climate in these sectors. On the brighter side, the rebuilding of corporate balance sheets, although not yet completed, is well under way, and there is little doubt that many medium-sized projects would be undertaken if the right conditions prevailed.

The personal saving rate is another key area where events might follow a different path. The second oil price shock and the contraction in economic activity that followed brought a substantial increase in the personal saving rate. From 1974 until 1978 personal savings in Canada averaged about 10 per cent of disposable personal income. Prior to that the saving rate averaged about 6 per cent. In 1983 consumers saved 13.3 per cent of their after-tax income – a substantial increase from the mid- or early 1970s.

Aside from the tax incentives introduced in the mid-1970s, there are many explanations for these high saving rates. The three most common suggest that high saving rates are a reaction to uncertainty, inflation, and high real rates of interest.

The first explanation is that Canadians increased their personal savings as a proportion of after-tax income during the depths of the 1981-82 downturn as a way of dealing with uncertainty. In fact, in 1982 the saving rate rose to 15.2 per cent – 5 percentage points higher than that recorded during the pre-recession period and more than double the rate in the early 1970s.

A second argument maintains that high saving rates are related to high rates of inflation and particularly to high rates of expected inflation. The argument suggests that part of the interest earnings on assets – such as money invested in bonds, or cash held in savings accounts – is regarded as a payment to the holder of the asset for the erosion that inflation is expected to cause in its real value. If this is the case, then it is sensible to save at least that part of the asset's nominal return – the part that has come to be known as "the inflation premium." As a result, different rates of anticipated inflation can give rise to different saving rates, all other things being equal. It follows from this argument that bringing down inflation will bring down the saving rate.

The third reason for high saving rests on a more traditional argument. Saving rates are sensitive to real rates of return. Since 1979, real rates of interest have been higher than at any other time since the Great Depression. These high real rates put upward pressure on the saving rate, independent of other factors.

Whatever the reason for high personal savings, their immediate effect is to dampen consumption spending. What course the saving rate will follow in future remains uncertain.

One other area of uncertainty in the current medium-run outlook – namely, the presence of a weak period of growth in 1986 – deserves some attention. Since 1973, North America has gone through three business cycles: in 1973-76, 1979-80, and 1981-82. These cycles were closely related to oil price increases and rising interest rates. In making a medium-run projection, it would be unrealistic to ignore the possibility of at least one additional business cycle adjustment before the end of the decade. In fact, it is useful to consider a band around the base case that under current conditions – such as the state of the cycle, domestic policy measures, and the path our trading partners are most likely to pursue, including their policy measures – would bracket the most likely outcome. We have combined three areas of uncertainty – the U.S. and overseas outlook, investment performance, and saving behaviour – into an optimistic and pessimistic case to form such a band within which we might expect actual events to fall.

The Performance Band

There are significant differences between the optimistic and pessimistic cases. But neither the optimistic nor the pessimistic case includes any changes in domestic fiscal policy, and any changes from the base case in domestic credit conditions are a response to changes in credit market conditions in the United States.

The optimistic case is characterized by lower U.S. interest rates, a lower domestic saving rate in Canada, and a higher domestic ratio of investment to GNE than in the base case. Easier credit conditions result from a more vigorous approach to deficit reduction in the United States. The easing of U.S. monetary policy benefits Canada as credit conditions loosen.

The pessimistic case is characterized by tighter credit conditions in North American financial markets, brought on by a lack of substantive action to reduce the U.S. deficit. In particular, the pessimistic case does not include the U.S. tax bracket indexation adjustment or income tax surcharge (personal or corporate) or the $160-billion down payment package. In the pessimistic case, U.S. interest rates peak near 15 per cent. The pessimistic case also includes a higher personal saving rate and a reduction in the ratio of investment to GNE from the base case.

Table 1-2 summarizes some of the differences in these three key areas. For example, the alternatives bracket the base case performance in personal saving by a little more than 2 percentage points and

Table 1-2

Key Determinants for Alternative Projections,[1] 1985-90

	1985	1986	1987	1988	1989	1990
			(Per cent)			
Personal saving rate						
Base case	10.4	9.0	8.6	8.5	8.4	8.5
Optimistic case	8.7	6.9	6.5	6.3	6.0	6.1
Pessimistic case	12.2	11.2	10.8	10.5	10.4	10.6
Real investment (percentage of GNE)						
Base case	19.4	20.3	20.9	20.9	20.9	21.4
Optimistic case	19.7	20.9	22.0	22.1	22.0	22.5
Pessimistic case	19.1	19.3	19.4	19.4	19.5	20.0
Short-term interest rate						
Base case	13.2	12.5	9.5	10.1	11.5	12.0
Optimistic case	12.3	11.1	8.2	8.4	8.3	8.4
Pessimistic case	14.5	15.1	11.9	12.1	13.2	14.7
U.S. short-term interest rate						
Base case	12.5	12.2	8.9	9.9	11.7	12.2
Optimistic case	11.5	10.7	7.6	8.1	8.2	8.5
Pessimistic case	14.0	15.2	11.4	11.8	13.1	14.7
U.S. federal deficit (percentage of GNE)						
Base case	-4.9	-5.5	-4.7	-4.0	-3.9	-4.4
Optimistic case	-5.1	-5.1	-4.6	-3.6	-3.3	-3.4
Pessimistic case	-4.7	-5.8	-5.0	-4.6	-4.6	-5.2

1 The optimistic assumptions include higher U.S. and overseas growth, higher investment growth, and a lower saving rate. The pessimistic assumptions include lower U.S. and overseas growth, lower investment growth, and a higher saving rate.

SOURCE Economic Council of Canada, CANDIDE Model 2.0, July 1984.

in investment by a little less than 1.5 percentage points. In the optimistic case the saving rate returns to a level near the average for the early 1970s – about 6.5 per cent of disposable income. In the pessimistic case the personal saving rate remains at about 10.5 per cent in the medium run (see also Chart 1-1).

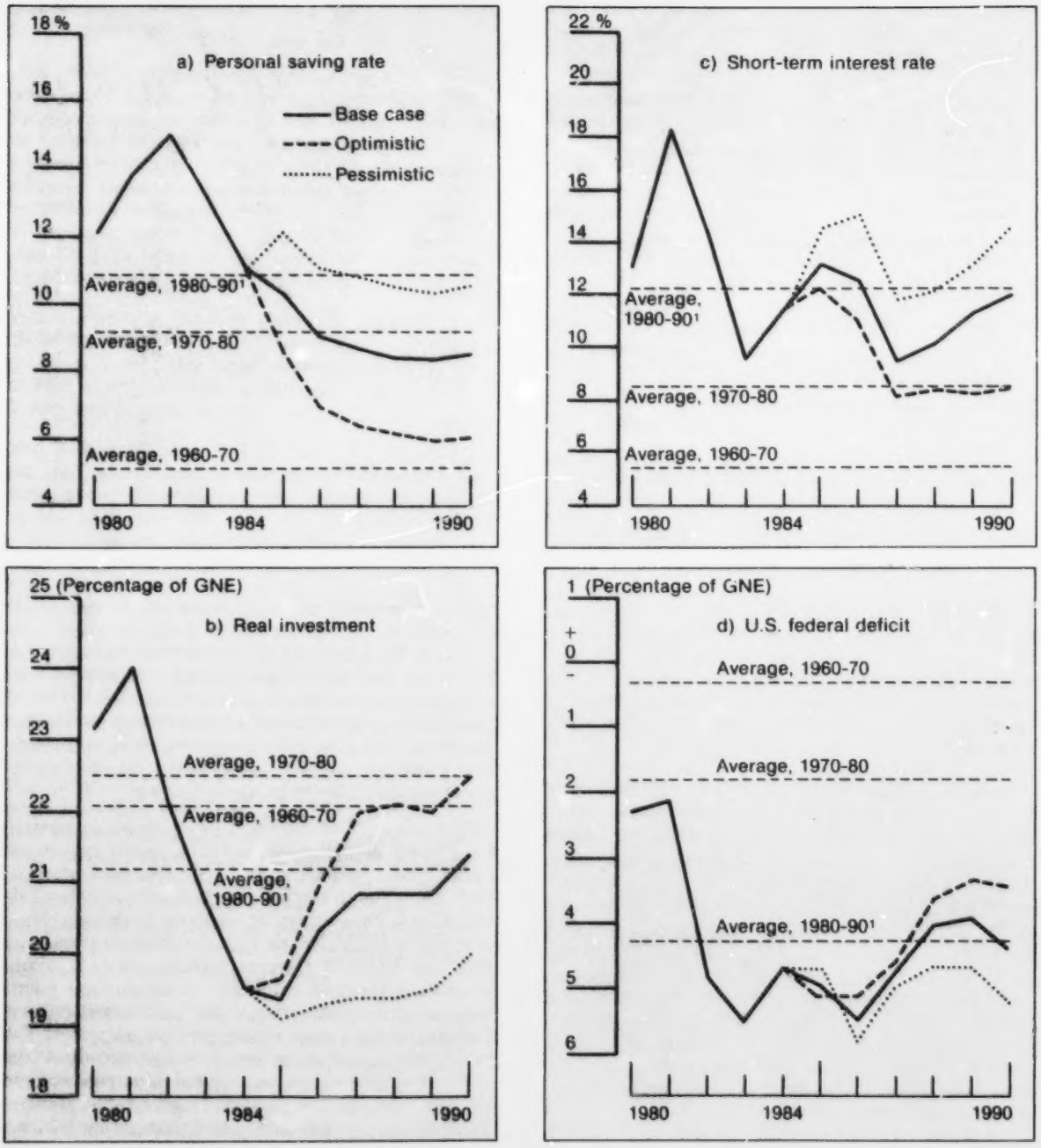
Real investment as a percentage of GNE now stands at a little less than 20 per cent. In 1981 it was at a cyclical high of about 24 per cent of GNE. During the 1981-84 period this ratio declined in each year. The optimistic case shows a return to average performance during the next three years. By the end of the decade the ratio moves upward to a range of between 22 and 22.5 per cent of GNE. This narrow band brackets the average for the 1960-80 period. The pessimistic case indicates very weak investment activity. The ratio of investment to GNE remains below 20 per cent until just before the turn of the decade. Compared with the pessimistic case, the base case is an improvement, but even the base case shows below-par investment performance.

This, of course, is one of the worrisome aspects of the outlook. It is also apparent that even the most optimistic case lacks a buoyant stage of recovery in which investment activity rebounds. If this stage materialized, it would provide welcome relief from many of the economic problems that Canada faces today. In particular, activity-based expansion that strengthened the tax base, accompanied by more favourable credit conditions, could help lower the deficit by reducing borrowing costs and increasing tax revenues, without necessitating an increase in taxes or a reduction in program funding.

One factor that could foster a more favourable investment environment is more favourable credit conditions. Variations in U.S. interest rates of between 1.5 and 3.0 percentage points on either side of the base case values, in response to deficit-related action or inaction by the U.S. government (assuming that the Bank of Canada follows the U.S. lead), produce a band of more than 4 percentage points between the optimistic and the pessimistic case in Canada. In fact, what results are two extremes. The pessimistic case is a less intense replay of the 1980-82 experience, when interest rates peaked near 20 per cent; in this replay, interest rates peak in 1985-86 near 15 per cent. The optimistic case shows little upward movement in interest rates, with a downward trend beginning in 1985-86 and continuing to the end of the decade.

Chart 1-1

Key Determinants for Optimistic, Pessimistic, and Base Case Projections, Canada, 1980-90

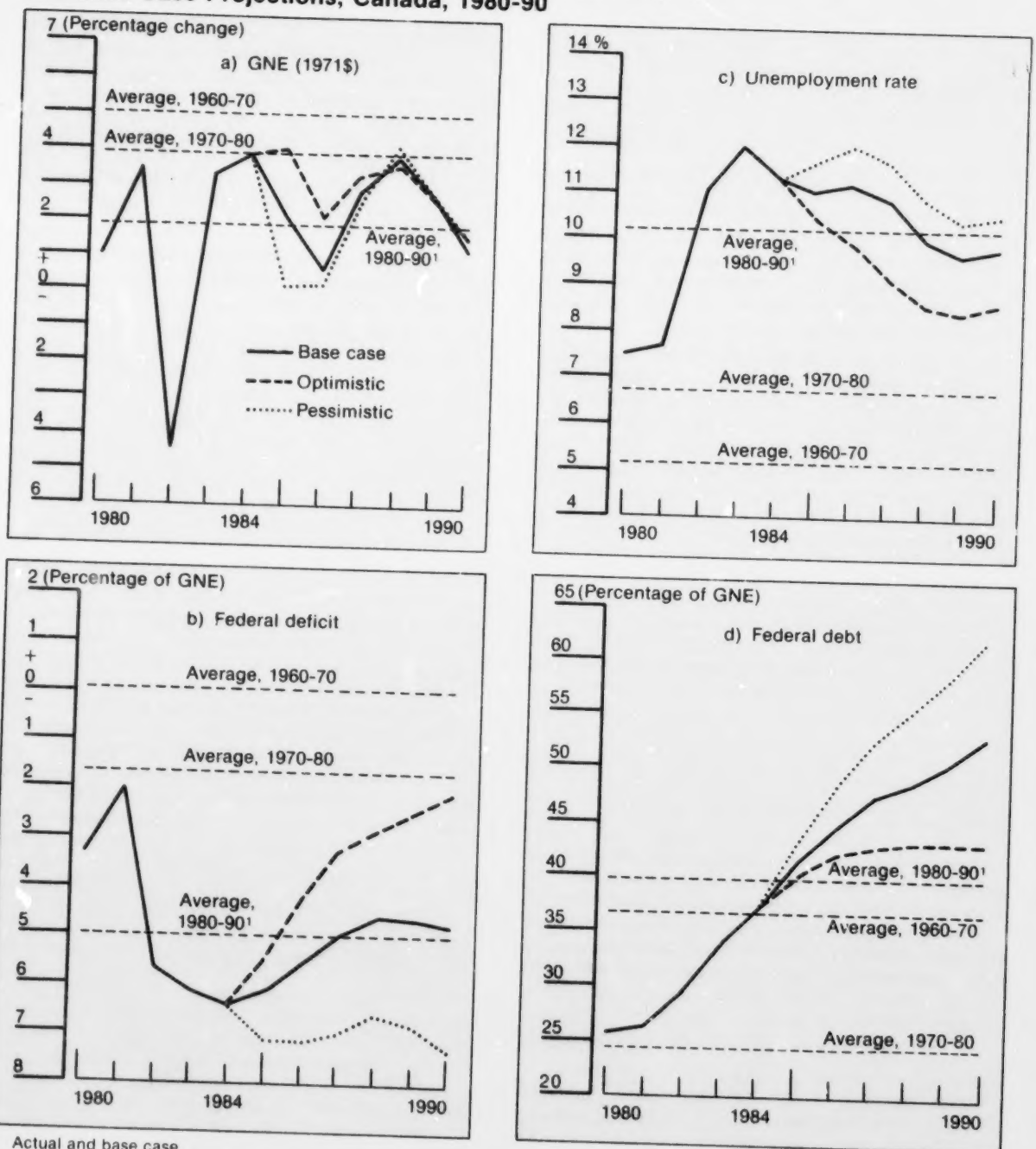


1 Actual and base case.

SOURCE Based on data from Statistics Canada, and Economic Council of Canada, CANDIDE Model 2.0; see also Table 1-2.

Chart 1-2

Selected Economic Indicators for Optimistic, Pessimistic, and Base Case Projections, Canada, 1980-90



1 Actual and base case.

SOURCE Based on data from Statistics Canada, and Economic Council of Canada, CANDIDE Model 2.0; see Appendix Table A-5.

Excluding unforeseen policy initiatives, these three important factors could lead to a different outcome from that of the base case. The range bracketed by these alternatives provides a stronger analytic framework than the base case alone. Within this framework we are able to assess not only the most likely path but also the sensitivity of key indicators to changing circumstances.

Chart 1-2 illustrates the impact of these factors on a number of key economic indicators. For example, in the optimistic case, the upper reach of the band of real growth in GNE falls above 3.3 per cent in 1985, 1987, and 1988. In the base case this occurs only in 1988. During the 1986 period of cyclical adjustment, there is a diminished risk of recession but still the risk of a growth pause. In the optimistic case, growth remains higher than 2 per cent.

In the absence of major price shocks, the band around the base case projection for inflation widens by the end of the period to about 2.5 percentage points. In all cases, the general trend is downward; and because of increased productivity growth and reduced credit costs, inflation edges close to the 1960-70 average of just above 2.5 per cent annually by the end of the decade. Price performance is very encouraging even in the pessimistic case.

The band within which we might expect the unemployment rate to fall is not as encouraging. Even in the optimistic case the unemployment rate never falls much below 8.5 per cent. The implication is that it will take more than three out of six years of growth that is substantially above potential to bring the unemployment rate below 8.5 per cent. The prospect of at least one more cyclical adjustment, and perhaps two, before the end of the decade leaves little doubt that the unemployment rate in Canada will be difficult to reduce substantially even under optimistic circumstances.

There remains the sensitivity of the government deficit to economic conditions. The federal deficit is sensitive to economic conditions because many of the transfer programs, especially unemployment insurance, and the tax base in general are directly influenced by the strength or weakness of activity in the private sector. Recently the level of interest rates has come to influence deficits significantly through borrowing costs. For the same debt stock, higher interest rates mean that a higher proportion of expenditures must be devoted to servicing debt charges. Thus different interest rates, saving behaviour, and investment activity all influence the size of the deficit in relation to GNE.

In our most optimistic case the ratio of the deficit to GNE is reduced from its current high of more than 6 per cent to about 2 per cent. The pessimistic case suggests a possible deterioration to more than 7 per cent of GNE.

The implications for debt servicing charges and the size of the federal debt are significant. A tight-credit, low-growth environment could push interest payments above 30 per cent of federal government expenditures. Even in the base case this ratio is subject to some upward drift. Upward drift is also a characteristic of the ratio of federal debt – the outstanding stock of Canada Savings Bonds, long-term securities, and treasury bills – to GNE. This ratio now stands at about 34 per cent, just below the average for the 1960-70 period. The base case shows a rising trend in this ratio, reaching above 50 per cent by the end of the decade. The pessimistic scenario implies a continuous substantial increase in the ratio of debt to GNE, which rises to over 60 per cent by 1990. A more optimistic economic environment could stabilize this ratio at nearly 40 per cent.

Our Concerns

Three problem areas that emerge from our analysis are the current poor performance of investment; the anticipated large federal deficits, and the persistent high rates of unemployment. Even in the most optimistic case, all remain in a range that leaves much room for improvement. The main difficulty, however, is that initiatives that would reduce the deficit quickly are inconsistent with measures designed to reduce the rate of unemployment in Canada. The Canadian government must proceed with care if it plans to initiate measures that would not only reduce the deficit but create employment.

2 Government in the Economy

In September Canadians witnessed the most awesome transformation of a federal parliament in history. With its victory, the newly elected government inherited a host of legislative and government programs implemented over the years to guarantee the well-being, safety, and security of Canadians. In keeping with the constitutional division of powers and federal-provincial fiscal arrangements, federal representatives share those concerns with provincial and local representatives.

Traditionally, governments have been entrusted to provide education and health care – which economists sometimes refer to as merit goods – and defence and justice, or public goods. They have also been expected to provide income for the old and the poor, so that all are assured of a minimum standard of living. In addition, Canadians have given their governments a mandate to stabilize the economy, to increase job opportunities, and to maintain reasonable prices for the products and services that are purchased and sold.

As governments fulfilled their role, public expenditures increased dramatically. The public sector share of gross national expenditures stood at over 46 per cent in 1983, compared with 27 per cent 30 years earlier. In 1952, federal, provincial, and local governments together spent $438 for each man, woman, and child living in Canada. By 1983 that sum had risen to more than $7,200. At the same time, taxes, the major source of government revenues, rose at a fast pace.[1] And deficits, another form of financing government expenditures, increased sharply in recent years.

The evolution of expenditures and taxes has not, however, been uniform. Most of the real increases in expenditures occurred at the provincial level, buoyed by federal transfer payments. Still, provincial governments, while incurring deficits, have had to be reasonably prudent, if only to keep their fiscal credibility in domestic and foreign financial markets. In our view, however, the federal government has been less prudent, not so much in its expenditure programs as in policy decisions that have prevented revenues from keeping up with rising spending. The situation was sorely aggravated by the depth of the 1981-82 recession. But next to the creation of jobs, the size of the federal debt, the cost of servicing it, and the constraints it attaches to other important expenditure programs are critical problems that must be addressed in the coming years.

Expenditures and Taxes: A Historical Overview

The late 1950s and the 1960s were years of broadening the government mandate in the context of a healthy economy. As real income increased, so did the demand for merit and public goods. Concomitantly, rapidly growing real income led to increased government revenue for the funding of newly introduced programs. During those years the federal and provincial governments worked together to build an elaborate social and economic infrastructure. Programs such as hospital insurance, the Canada and Quebec pension plans (CPP/QPP), the Canada Assistance Plan, medicare, postsecondary education grants, along with major amendments to the Old Age Security Act and the Unemployment Insurance Act, were part of a social contract to ensure that all Canadians would be entitled to equal opportunities and an adequate standard of living. This also firmly anchored the principle of universality in the minds of all Canadians. "Budgets [became] reflections of social and economic philosophy. They [dealt] not just with dollars and cents, but with hope and human values."[2]

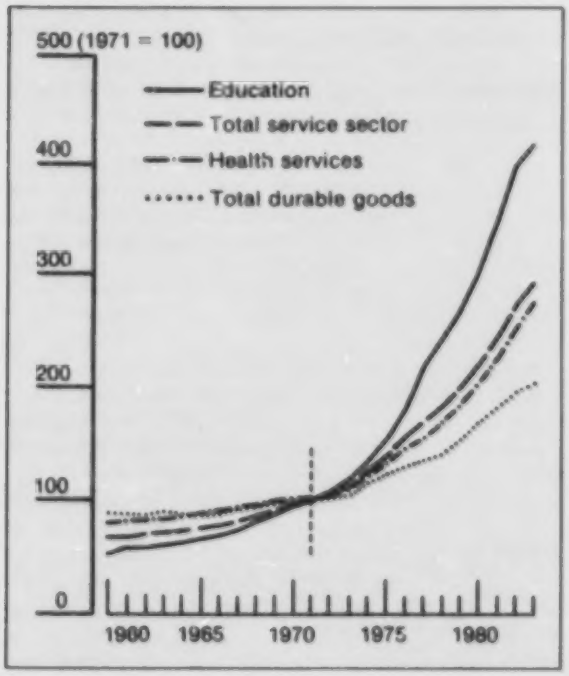
With the 1970s came years of comparatively slower growth, escalating inflation, and changing demographic and sociological factors, all of which tended to heighten government spending even though fewer major new programs were introduced. While policy decisions were the driving force behind the increase in government expenditures in the 1960s, socioeconomic factors were primarily responsible for the growth of public spending in the 1970s. Rising levels of unemployment boosted spending under existing social programs. Unemployment insurance payments increased significantly, as did money spent under a number of employment programs for the young and the not-so-young.

Inflation also pushed up government spending. Pensions under the CPP/QPP, old age security payments, and family allowances were indexed to the rate of inflation, adding to their costs. Inflation also increased the cost of delivering public services (Chart 2-1). Indeed, in the last 10 years, the rate of increase of government expenditures was four times faster in

nominal terms than in real terms, partly reflecting the rapid rise in prices in the service sector.

Chart 2-1

Implicit Price Index, Selected Sectors, Canada, 1960-83



SOURCE Based on data from Statistics Canada.

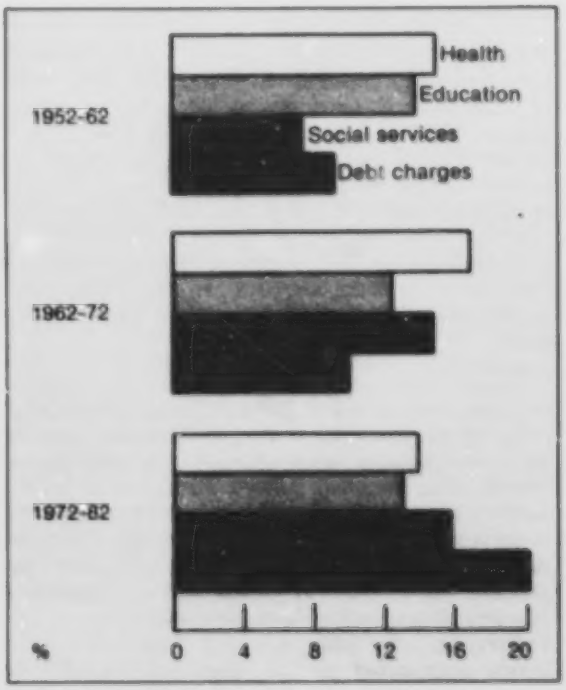
More specifically, the price of health care and of educational and cultural services rose significantly, to some extent because of the difficulty in achieving economies of scale and specialization in the service sector. The movement towards high technology in the health sector may have also contributed to the rapid increase in health care costs. Despite efforts to curb spending, particularly in the areas of education and health services, some have taken the view that "government management of its production activities [may have] been lax because of the absence of market constraints and competition."[3] Another possible explanation is the productivity lag in the government sector, which "is more labour intensive than the private sector and has fewer opportunities to increase productivity through technological advances."[4]

Other economic factors were also at play. The cost of subsidies, such as the subsidy to hold the domestic price of oil below its international setting in order to soften the impact of the oil price shocks in 1973 and in 1979, contributed to increased federal spending. In addition, the demand for public goods and services was boosted by a sort of fiscal illusion that sometimes ignored the fact that these entail real costs that must be shared, generally through higher taxes. That governments do not publicize this aspect of specific programs is most certainly a contributing factor.

Among noneconomic factors, demographics shaped the evolution of government expenditures. The aging of the population contributed to increased expenditures on pensions. Growing urbanization also added to government expenses, as cities required large outlays for public safety and health, transportation, sanitation, and recreational activities. The changing family structure placed further strains on public funds. With the disappearance of the extended family and with the greater number of divorces, government social expenditures grew rapidly to

Chart 2-2

Annual Compound Growth Rate of Consolidated Government Expenditures,[1] Selected Sectors, Canada, 1952-82



1 On a Financial Management System (FMS) basis.
SOURCE Based on data from Statistics Canada.

support an increasing number of single-parent families with nowhere else to turn.

Many of the factors that led to rising expenditures also had an impact on revenues. Weaker economic growth slowed the increase in the tax base, as did the indexation of personal exemptions and tax brackets. In fact, until the indexation of the personal income tax system, the government cashed in a "fiscal dividend," as inflation-linked increases in nominal incomes pushed up government tax revenues. These were used to fund expanding programs. Indexation cut into these revenues, but no simultaneous correction was imposed on expenditure growth. The 1970s also saw the introduction of many new tax expenditures – those special exemptions which reduce the tax bill of selected beneficiaries. These further slowed the rate of increase of government revenue.

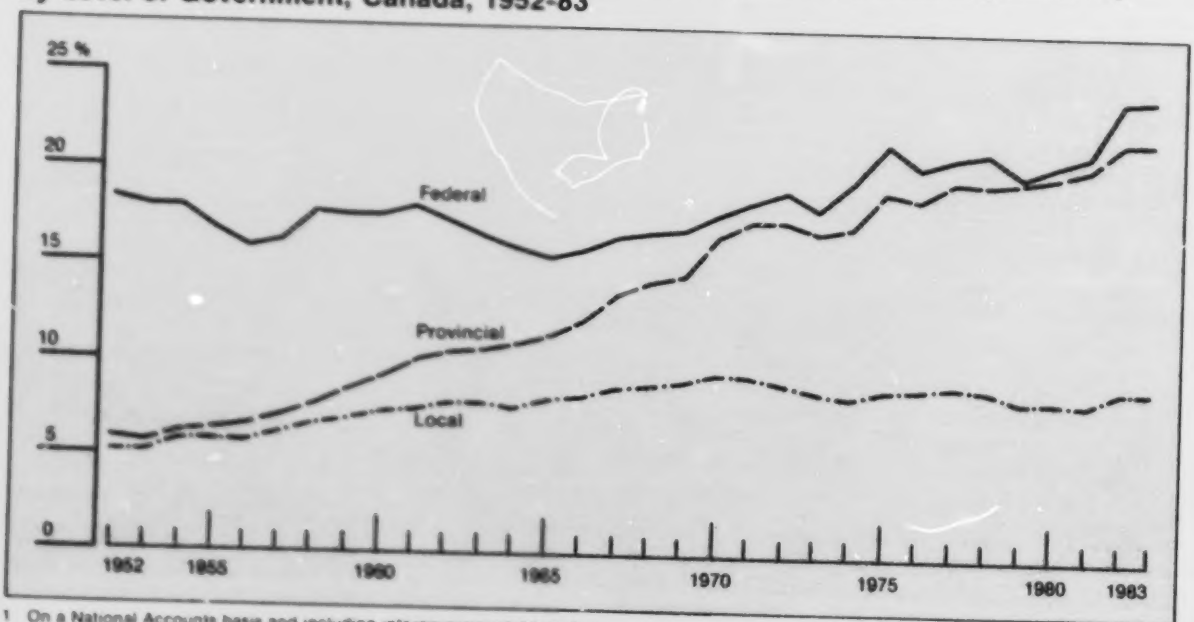
Clearly, the combination of upward pressure on spending within the established mandate and the reduced growth of revenues was a perfect recipe for financial trouble. Added to that was the appalling economic performance of the late 1970s, causing dismal growth, rising unemployment, and high inflation. Governments, and particularly the federal government, found themselves severely tethered financially. Given the unfavourable economic situation and high unemployment, governments were reluctant to correct for the shortfall in revenue. Worse still, economic factors were reducing the tax base while pushing up expenditures. On top of that, debt charges were becoming a major contributor to government spending, not only because of higher public debt levels but also because of higher interest rates. This litany of difficulties made the late 1970s and the early 1980s trying years for governments wanting to put their financial house back in order.

The Distribution of Spending

Those very same policy decisions and economic and social factors influenced how governments spent their money (Chart 2-2). Over the past 30 years the relative importance of the health component rose almost threefold to about 12 per cent of total public expenditures; the relative importance of education more than doubled from 1952 to 1968 but declined somewhat thereafter, now averaging around 13 per cent of expenditures; and spending on social services rose from about 17 per cent to between 20 and 22 per cent of the total in the early 1980s. The share of spending on natural resources and industrial

Chart 2-3

Gross Government Expenditures[1] as a Proportion of Gross National Expenditure, by Level of Government, Canada, 1952-83



1 On a National Accounts basis and including intergovernmental transfers
SOURCE Based on data from Statistics Canada

development showed a modest increase; on transport and communications, a modest decline; on national defence, the sharpest reduction of all.

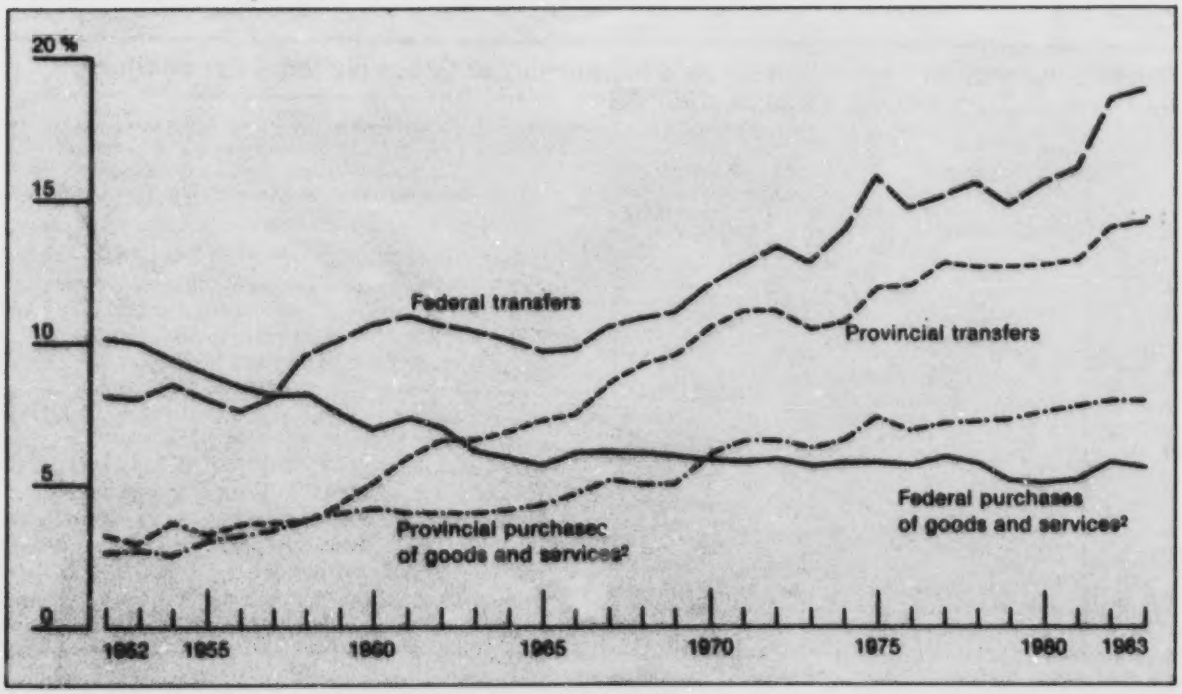
Together, expenditures on health, education, and social services grew from 31 per cent of total expenditures in 1952 to almost 47 per cent in 1982. By then, Canada's governments were spending close to $1,560 per capita on social services, over $950 on education, and close to $820 on health. Debt charges amounted to about $860 per capita.

Most of the areas where government spending increased in relative importance – education, health, and a large component of social services – fall under provincial or local jurisdiction. Thus it is not surprising that the ratio of provincial government expenditures to GNE increased steadily and markedly over the 1952-82 period (Chart 2-3). Local government expenditures increased as a proportion of GNE from 1952 until 1970 and stabilized thereafter, while federal government expenditures registered only a modest rise in the 1970s and early 1980s.

Parallel to the increase in the relative importance of provincial spending, the role of the federal government shifted somewhat from a purchaser of goods and services to a transferrer of income or resources (Chart 2-4). At the provincial level, purchases of goods and services, and transfers, increased – the latter at a much faster pace. In fact, in 1983, almost half of consolidated government expenditures were accounted for by transfer payments, including payments on the public debt. Transfer payments were responsible for much of the rapid growth in government expenditures, particularly in recent years. As a percentage of GNE, transfer payments more than doubled between 1952 and 1983, while spending on goods and services increased by about 45 per cent over the same period. In the 1972-82 period, transfer payments accounted for about four-fifths of public expenditure growth. Two recessions and rising

Chart 2-4

Federal and Provincial Government Transfer Payments[1] and Purchases of Goods and Services[2] as a Proportion of Gross National Expenditure, Canada, 1952-83



1 On a National Accounts basis and including intergovernmental transfers.
2 Including capital formation.
SOURCE Based on data from Statistics Canada.

debt charges bolstered the increase in transfers, while government restraint appears to have limited the growth of spending on goods and services. Furthermore, for all levels of government combined, the relative importance of expenditures on capital formation declined continuously from about 14 per cent in the mid-1960s to less than half that today, at the same time as reliance on debt financing was increasing (Chart 2-5).

For the three levels of government together, transfers to persons accounted for more than half of total transfers, followed by debt charges; the latter, however, have been growing faster than the former. Various subsidies and capital assistance programs directed mostly at business enterprises constitute the third category of transfers, but they total far less than the other two. Transfers to persons can be further disaggregated. Social programs, particularly unemployment insurance benefits and old age security payments, represent the largest share of transfers at the federal level. Social assistance takes the largest slice at the provincial level.

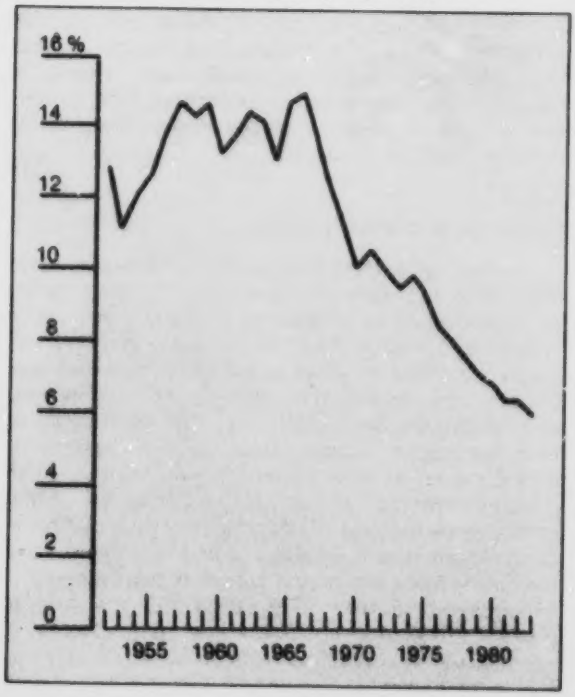
Transfers from one level of government to another – which disappear in the consolidation of all levels of government – are important, especially at the federal level. Federal transfers to the provinces increased in relative importance until 1971, then started to fall off. Transfers to provinces are an important factor in the fiscal stance of the federal government. For instance, had those transfers not been made and had the revenue structure remained the same – both quite heroic assumptions – the federal government would have registered a surplus (at times, a sizable one) for every year up to 1982. In that year, the deficit would have been reduced by about $16 billion, even without taking into account the lower debt charges resulting from a lower level of federal debt outstanding. What this suggests is that the fiscal stance of a level of government cannot be analysed independently of what is happening at other levels. The importance of provincial transfers to municipalities reinforces this proposition.

Since transfer payments represent about half of government expenditures, it would be wrong to take the view that close to half of the country's resources are being diverted by government on the basis that total government expenditures are more than 46 per cent of GNE. Transfer payments constitute nothing more than a shift of income from one spending unit (individual or business) to another. The ultimate expenditure on goods and services resulting from the transfer payment is made by the private sector and not by government. Some argue that because government transfers are in most cases initiated through the tax system they indirectly impose real costs on the economy as a whole. But this would only be the case if they did not correspond with the wishes of the electorate.[5]

To a large extent, then, the actual fiscal stance of a level of government reflects the institutional structure within which the federal system operates. Furthermore, the analysis of the forces behind the growth in expenditures should be conducted according to the level of government that controls the various categories of expenditures considered. But before we conduct such an analysis, we complete this historical overview with a brief international comparison.

Chart 2-5

Capital Formation as a Proportion of Total Consolidated Government Expenditures,[1] Canada, 1952-83



1 On a National Accounts basis and excluding intergovernmental transfers and CPP/QPP expenditures.
SOURCE Based on data from Statistics Canada.

How Does Canada Compare with Other Countries?

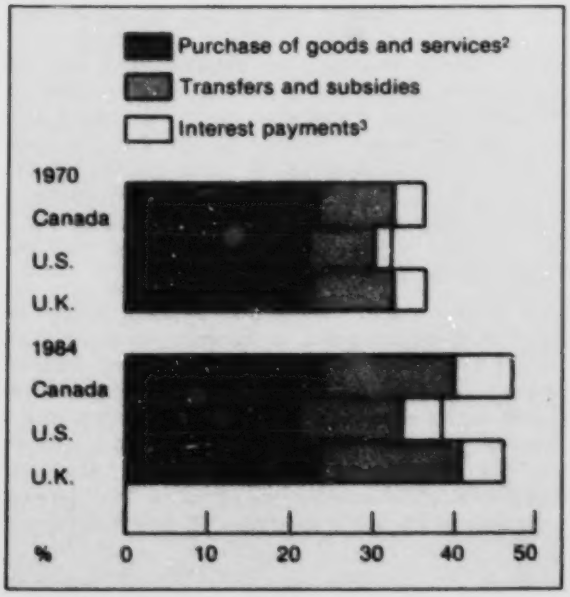
Canada's experience with respect to the presence of government in the economy is not unique in the western world. Over the past 20 years, the growth of

public expenditures increased significantly in all member countries of the Organisation for Economic Co-operation and Development (OECD). As in Canada, the push came mainly from the social area, reflecting in turn the economic adversity. Public expenditures on health, education, and various income maintenance programs in seven major OECD countries rose at almost twice the rate of growth of GDP; transfer payments alone outpaced the expansion of nominal GDP and that of government purchases of goods and services in every major industrial country. Debt charges also rose in those countries, reflecting higher interest rates and the deteriorating financial position of governments (Chart 2-6).

Taxation also increased in relation to gross domestic product in most OECD countries, from an average of about 25 per cent of GDP in 1955 to about 37 per cent in the early 1980s. In terms of its relative tax burden in 1982, Canada ranked fourteenth out of 23 countries.[6] Sweden, Denmark, Norway, Austria, Germany, the United Kingdom, and Belgium were all more heavily taxed in relation to their GDP than Canada. Less heavily taxed in relation to GDP were the United States and Japan. Of equal interest for policy purposes is the relatively low share of social security contributions as a percentage of total taxation in Canada compared with that in many of the other OECD countries.[7]

Chart 2-6

Selected Components of General Government Expenditures as a Proportion of Gross Domestic Expenditures,[1] Canada, United States, and United Kingdom, 1970 and 1984



1 On a National Accounts basis.
2 General consumption plus investment.
3 Gross interest payments.
SOURCE Based on data from the International Monetary Fund.

How the Federal Government Spends

Spending on social services represents the major expenditure item of the federal government, and it rose substantially in relative importance from 23 per cent of the total in 1952 to about 36 per cent in 1982 (Chart 2-7).[8] Although most "social services" fall under provincial jurisdiction, the federal government, through agreements with the provinces, assumed responsibility for old age security (OAS) and the guaranteed income supplement (GIS), and the administration of the CPP and family allowances, to ensure that national standards prevail. Federal jurisdiction over unemployment insurance was established in the 1940 Unemployment Insurance Act. Debt charges were the second major component of federal expenditures in 1982, having gained in relative importance in the late 1970s. Finally, federal spending on industrial development and natural resources ranked third, superseding that on national defence. Expenditures on health and education represented a very small proportion of federal government expenditures, when transfers to lower levels of government are excluded.

Social Service Expenditures

The fast growth of federal social expenditures in the 1960s and early 1970s was the result of policy decisions aimed at broadening eligibility rules and at increasing benefits. Four major areas were significantly modified – namely, pensions and old age security, unemployment insurance, family allowances, and the provincially administered Canada Assistance Plan for social welfare. Most of these programs evolved from a strong commitment to ensure an adequate standard of living for all Canadians, young or old. Since the mid-1970s nonpolicy factors – rising unemployment and inflation, primarily – have been the driving force behind the growth of this category of expenditures. In the 1972-82 period, the rate of growth of federal social service expenditures in nominal terms was close to three times as large as that in real terms.

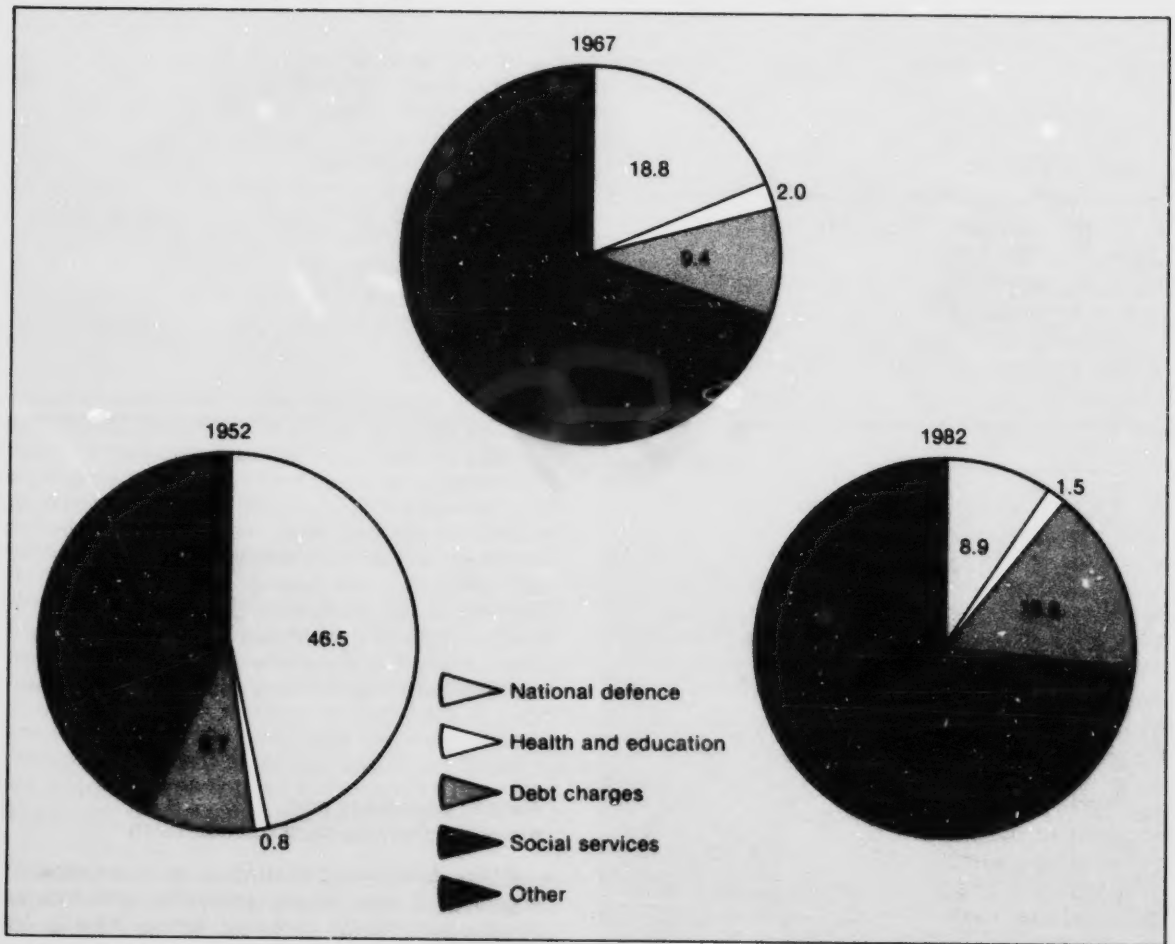
Over 40 per cent of federal social service expenditures go to the old age security program, while between 25 and 30 per cent are accounted for by

unemployment insurance payments. Family allowances, CPP payments, and workers' compensation follow. CPP payments registered the fastest relative increase, while family allowance expenditures declined in relative importance.

Income Maintenance Programs for Older Canadians — In 1951 the federal government replaced the Old Age Pensions Program with the Old Age Security Act, which guaranteed a basic minimum pension for all Canadians 70 or older. Along with it came the Old Age Assistance Act, which provided a means-tested pension for Canadians aged between 65 and 69. Still, most Canadians suffered a drastic reduction in income upon retirement, and by 1966 a flexible retirement income system was introduced, consisting of a universal entitlement through the basic old age security program with an income-tested guaranteed income supplement and a fully portable earnings-related contributory pension (CPP and QPP in Quebec). The old age assistance program was phased out between 1966 and 1970, as the age for

Chart 2-7

Percentage Distribution of Total Federal Government Expenditures,[1] Canada, 1952, 1967, and 1982



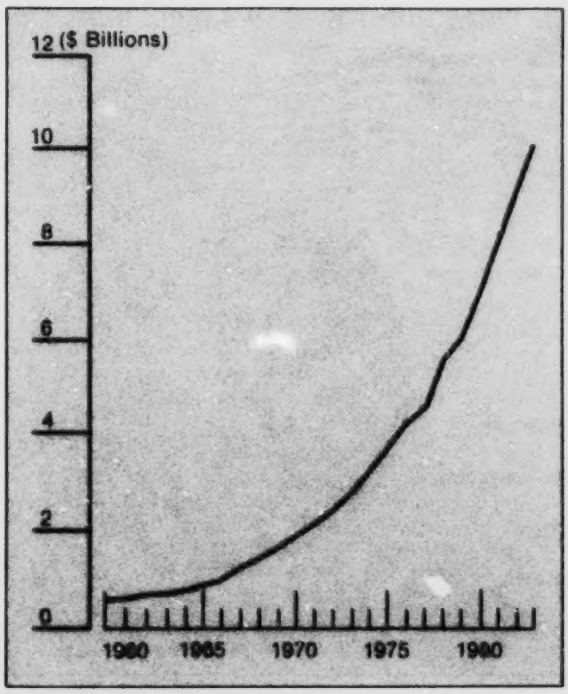
1 On an FMS basis.
SOURCE Based on data from Statistics Canada.

OAS eligibility was gradually lowered to 65. As eligibility was broadened, the largest number of new entrants into the program was recorded between 1965 and 1970, and expenditures under the income retirement system escalated (Chart 2-8).[9] In 1972, OAS payments were indexed to the full increase of the consumer price index, and expenditures accelerated at an unprecedented pace until 1980. The GIS expenditures grew at about the same rate following full indexation in 1973. Thus program changes reflecting a broadening of government concerns for the elderly, inflation, and the early signs of aging of the Canadian population contributed to the rapid growth of this category of expenditures.

Unemployment Insurance — Changes in the Unemployment Insurance Act and the business cycle, as well as long-term economic conditions, have contributed to the substantial rise in unemployment insurance payments since 1966 (Chart 2-9). In 1971 coverage was extended to almost all employed persons; benefits were substantially increased; and qualifying periods were reduced. As a result, payments increased significantly, and unemployment insurance outlays became a major component of government transfers to persons. In addition, the entitlements of beneficiaries increased over time to reflect the general rise in wages, the cost of living, and increased employer and employee contributions. Further, as more women and young people have entered the labour force, more and more Canadians are experiencing unemployment than ever before.[10] Of course, the steep increase in unemployment insurance payments in relation to GNE in 1981 and 1982 reflects the severity of the recession.

Chart 2-8

Old Age Security Benefits Paid,[1] Canada, 1960-83



1 On a National Accounts basis.
SOURCE Based on data from Statistics Canada.

Family Allowances — Changes in policy and in the demographic composition of the population influenced the evolution of family allowance payments. In 1973 the Family Allowance Act was amended to raise the eligibility age from 15 to 18 years and under and to index benefits. These modifications were important enough to start a sharp upward trend in payments, despite a decline in the number of children in each family from almost 2.5 in 1964-65 to fewer than 1.9 in 1981 (Chart 2-10). In 1976 indexation was temporarily suspended as part of the federal government's restraint program. In 1979 family allowance payments decreased as the Child Tax Credit was implemented.

Debt Charges

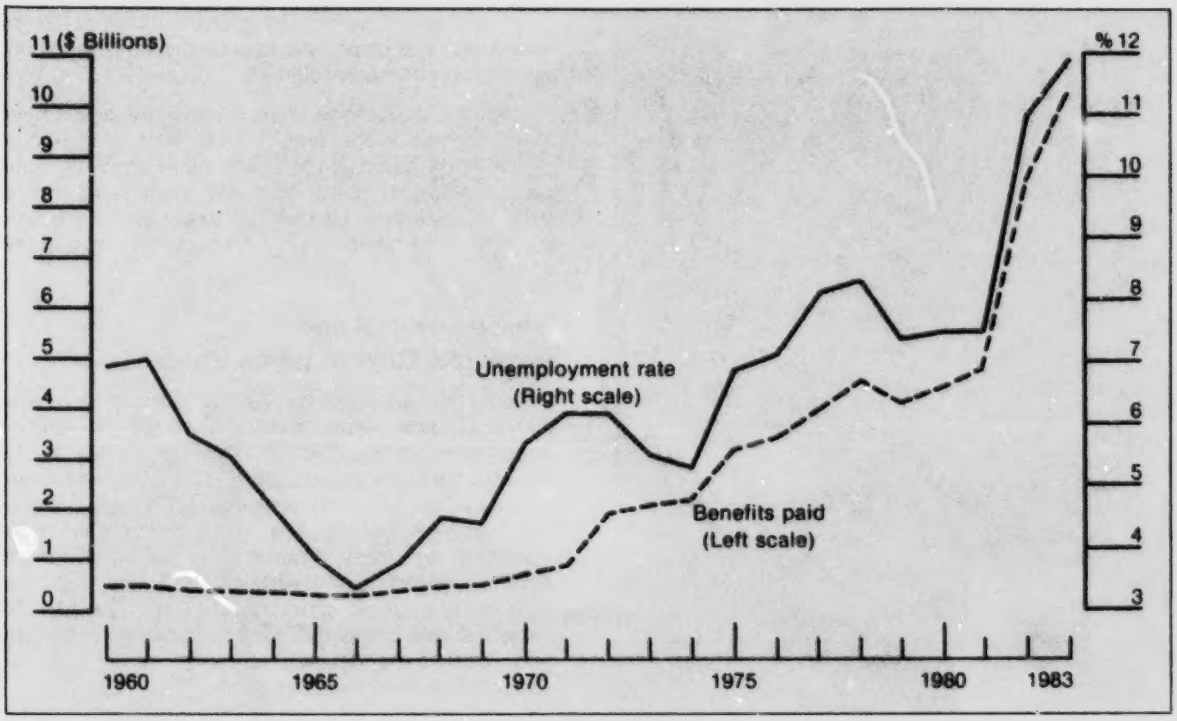
Paying for the public debt constitutes an important and fast-growing component of federal expenditures. In 1983 the federal government paid over $17 billion in interest on its public debt outstanding. By comparison, all levels of government together paid over $28 billion. For the total government sector, interest paid on the public debt outstanding in 1983 was five times as high as in 1974, having doubled between 1978 and 1983. For the federal government the ratio of debt charges to total federal expenditures increased dramatically over the past eight years, the combined result of rising interest rates and a sizable increase in debt issues.[11]

Natural Resources and Industrial Development Expenditures

Policy decisions account for most of the growth of spending in the natural resources and industrial development (NRID) category, whose share of total federal expenditures doubled between 1952 and 1982 to almost 11 per cent in the latter year. Most of the growth occurred in the last decade, spurred by

Chart 2-9

Unemployment Rate[1] and Unemployment Insurance Benefits Paid, Canada, 1960-83



1 For labour force aged 14 and over, up until 1966; 15 and over, thereafter.
SOURCE Based on data from Statistics Canada.

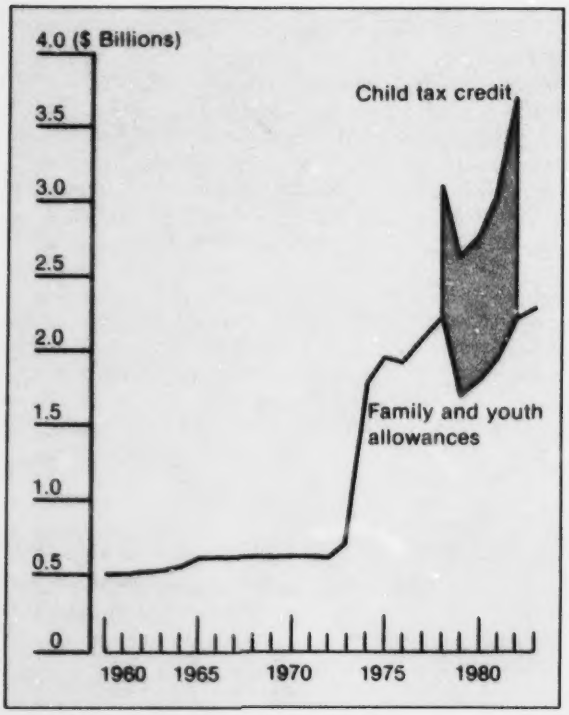
spending in the oil and gas industry to lessen the impact on Canada of the oil price shocks in 1973 and 1979 and to render Canada self-sufficient in energy. In total, federal expenditures in the oil and gas sector amounted to $5.2 billion in 1982/83. In that year $1.8 billion was spent under the Petroleum Incentive Program, which pays up to 80 per cent of the exploration cost of Canadian-owned companies drilling off the east coast or in the Arctic.[12] Other incentives include the off-oil and the import subsidy programs. Spending on oil and gas is not limited to the federal government, but it accounts for more than 80 per cent of total public spending in this area.[13]

Prior to 1973, governments spent almost nothing in the oil and gas sector, and agriculture accounted for the largest portion of NRID expenditures. In the 1980s spending on agriculture ranked second behind that on oil and gas. About half of current agricultural spending goes towards purchases of goods and services. The other half goes to transfers to persons and to businesses through various grants and assistance programs to farmers, which proliferated in the 1970s. Grain support programs and payments to producers of manufactured milk and cream contributed to the growth of that category of expenditures. Moreover, payments by the Canadian Dairy Commission amounted to $279 million in 1982.

Public spending on trade and industry accounted for another 15 per cent of total NRID expenditures. Most of the spending in that area is attributable to the federal government, although its share has been declining since 1970. Expenditures in this category are almost equally divided between purchases of goods and services and transfers to businesses. The latter registered strong gains in the 1970s, rising from $147 million to $585 million in 1979. These numbers reflect the numerous assistance programs to business that have been put in place and expanded by the federal and provincial governments.[14]

Chart 2-10

Family and Youth Allowances Paid and Child Tax Credit, Canada, 1960-83[1]



1 1982 in the case of the child tax credit.
SOURCE Based on data from Statistics Canada and from Department of Finance Canada.

Manpower Program Expenditures

Even if federal expenditures on "labour, employment, and immigration" currently account for only 1.4 per cent of the total consolidated government expenditure, those devoted to employment and retraining policies have a high degree of visibility in the public eye.[15] Canada has a long history of federal initiatives in this area and in many respects has provided a model for other OECD countries. The Department of Employment and Immigration is by far the main source of expenditures but not the only one. The Departments of National Defence, Secretary of State, and Regional Industrial Expansion administer some manpower-related programs of their own, as do many of the provinces.

The first major federal initiative in support of adult training occurred in 1960 with the passage of the Technical and Vocational Training Assistance Act (TVTA), much of which involved sharing with the provinces the capital costs in the development of vocational training institutions and equipment. Seven years later, the federal department took another step, replacing TVTA with the Adult Occupational Training Act, by which it purchased training services directly from provincial educational institutions. In 1982 a new National Training Program was enacted to strengthen the responsiveness of the training institutions to labour market signals.

Similarly, direct federal job creation initiatives have expanded since the early 1970s, with a variety of programs targeted at youth and other special groups or communities. In the 1983/84 fiscal year, federal expenditures for adult training exceeded $1.3 billion; for direct job creation they amounted to about one billion.

How Provincial and Municipal Governments Spend

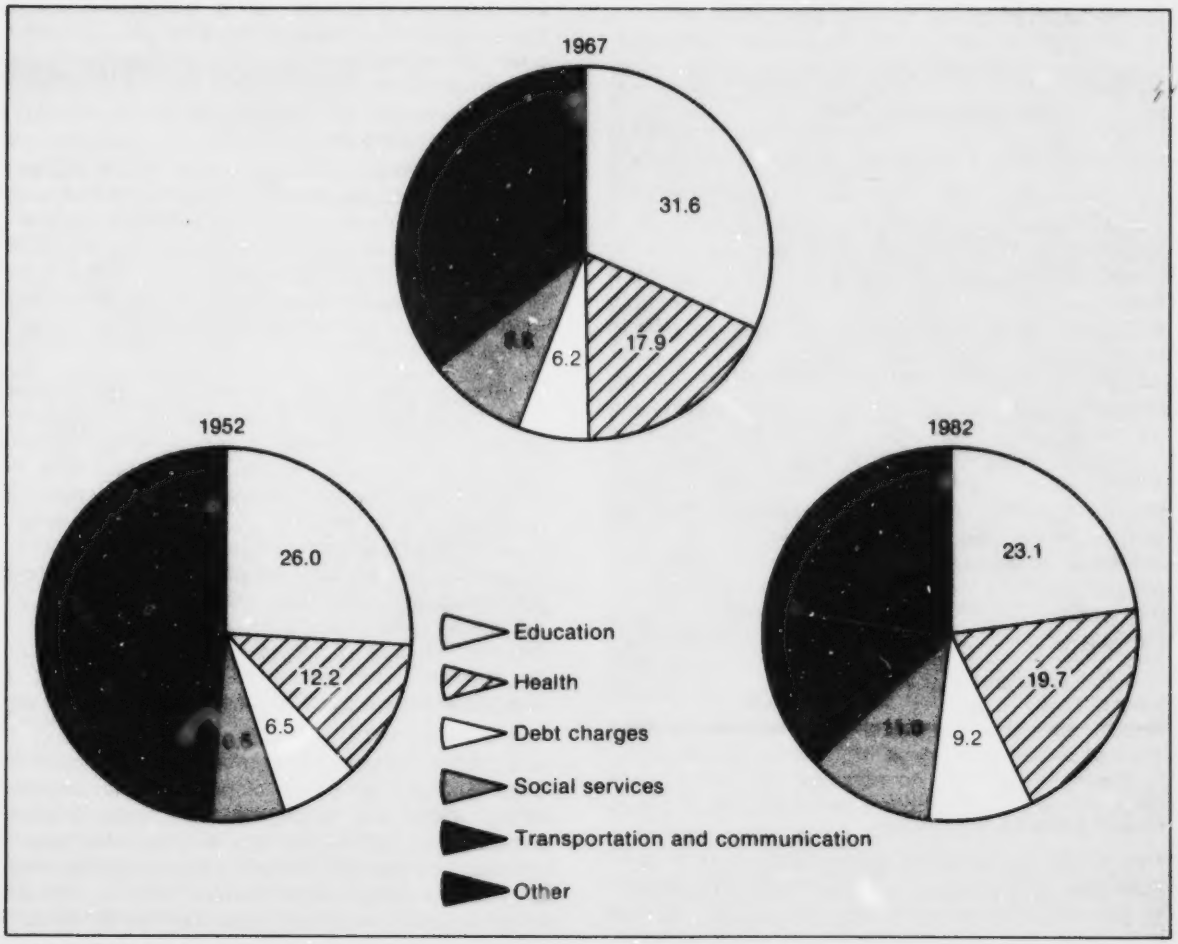
Education accounts for the lion's share of provincial and local expenditures, although its relative importance declined in the 1970s (Chart 2-11). Health care expenditures represent the second major category; spending on social services, the third. In the 1952-82 period, the relative importance of spending on transportation and communications declined substantially, while that of debt charges rose. In real terms, spending on health care represents the largest share of inflation-adjusted provincial and local expenditures, followed by outlays on education and social expenditures.[16]

Education Expenditures

Demographic and economic factors have played a key role in shaping education expenditures. The proportion of the population less than 14 years of age has been declining continuously from the peak reached in 1966. As a result total enrolment fell throughout the 1970s. Nevertheless, nominal education expenditures expanded continuously (Chart 2-12). One reason was that the mix of education activities grew increasingly expensive as the postwar baby boom moved into higher levels of education.[17] As a result of changes in the age pyramid, enrolment in postsecondary institutions increased. Furthermore, the continuing shift of population from rural to urban areas and from the city core to the suburbs forced new construction that would not have taken place if the drop in enrolment had uniformly affected all regions in the country. Overall, however, relatively few schools were built in the 1970s, and consequently expenditures for capital and debt charges declined in relative importance. But educators secured large wage increases in the early and mid-1970s, and these led immediately to a rise in educational expenditures. Consequently, while basic educational spending in

Chart 2-11

Percentage Distribution of Total Provincial-Municipal Government Expenditures,[1] Canada, 1952, 1967, and 1982



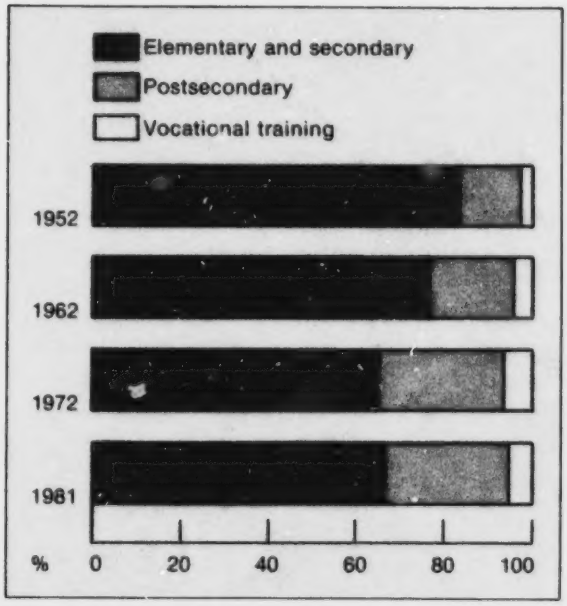
1 On an FMS basis.
SOURCE Based on data from Statistics Canada.

current dollars increased at a fast pace, measured in 1971 dollars it actually declined.

Policy decisions were also a factor in the growth of spending on education, although a less important one. Increasing emphasis was placed on diversifying and upgrading the accessibility of education at the postsecondary level, through the expansion of community colleges as well as enlarged university enrolment. In 1967 the federal government entered into an agreement with the provinces to pay at least 50 per cent of the eligible costs of postsecondary education in each province in the form of cash transfers or tax points. These commitments turned out to be costly. As a consequence the federal government became concerned about the open-endedness of the agreement with the provinces. In 1977, with most of the postsecondary facilities completed, the federal government deemed the postsecondary support program "established." Under the Established Programs Financing Agreement (EPFA) the federal government would henceforth not allow grants to provinces to grow at a faster rate than the increase in the gross national expenditure.

Chart 2-12

Distribution of Total Education Expenditures,[1] by Educational Level, Canada, Selected Years, 1952-81



1 Including private sector expenditures.
SOURCE Based on data from Statistics Canada.

Health Care Expenditures

Over the last 30 years, public spending on health care grew at a compound annual rate of more than 15 per cent, a much faster rate of increase than that for total public provincial and local expenditures. Rapid growth occurred between 1958 and 1972, when the relative importance of provincial spending on health care almost doubled. This dramatic increase can be attributed to the establishment of the Canadian universal health care system, which was accompanied by a shift of health expenditures from the private to the public sector.

The first step towards a universal health care system at the national level was the introduction of the National Hospital Insurance and Diagnostic Services Act in 1958, instituted by the federal government.[18] That year, five provinces – Newfoundland, Manitoba, Saskatchewan, Alberta, and British Columbia – entered into the hospital insurance program and became eligible for cost sharing with the federal government. By 1961 all 10 provinces were participating in the hospital insurance program. In 1964, however, the Royal Commission on Health Services strongly emphasized the need for a comprehensive universal health program for all Canadians. Following this recommendation, the federal government introduced a medical insurance plan in 1966 to cover all medical services and to provide health care for all Canadians irrespective of income or province of residence. By 1971 all provinces had joined the medical care program.

Paralleling these changes, public health expenditures rose from less than 5 per cent of total expenditures for all levels of government in 1952 to a peak of more than 13 per cent in 1971, reflecting in part the shift of health care from the private to the public domain. The public sector's share of health expenditures increased from 43 per cent in 1960 to a high of 77 per cent in 1975.

Although the federal government was involved early on in the health care program, control over expenditures was always in the provincial domain; and for many years, federal participation took the form of cost sharing transfers from Ottawa to the provinces. As in the case of postsecondary education, the federal government, in an attempt to control its costs, deemed both hospital and medical insurance programs to be fully "established" in 1977, and increases in federal contributions were mainly held to the nominal rate of increase of the gross national expenditure. This permitted the government to dissociate federal contributions from provincial costs.

If, prior to 1971, policy decisions broadening the role of government in health care were the driving force behind the growth of public health expenditures, wage and price inflation, more intensive services, and high technology subsequently became the main contributing factors. Large wage increases for hospital personnel in the mid-1970s contributed to continued expenditure pressures.[19] While spending in nominal terms continued to increase, hospital care expenditures in real terms actually declined in the late 1970s.

An important component of the growth in hospital operating expenditures per admission is the intensity of services associated with new medical procedures and technology. Open-heart surgery, by-passes, heart transplants, and joint replacements, for instance, are costly treatments. These new techniques require more space, equipment, laboratory tests, examinations, and most of all more nursing time. While hospital care, measured by the number of in-patients over the last two decades, increased at an average annual rate of about 2 per cent, hospital resources measured by labour hours, capital, energy, and materials grew at a combined rate of over 5 per cent. More and more resources were needed to

provide for new medical techniques and more intensive services. These techniques are clearly an important factor in the rapid increase of hospital costs. They have also saved lives and improved the quality of life for others.

Social Assistance Expenditures

Social assistance programs have been one of the main contributors to growth in expenditures on social services at the provincial and local levels. The expansion of these programs is related to the enrichment of social welfare programs and to sociological as well as economic factors. First, the Canadian social welfare system was significantly strengthened in the late 1960s with the adoption of the Canada Assistance Plan. Second, rising separation and divorce rates have resulted in a large number of one-parent or one-unit families, many of which have been faced with rising unemployment and have had little recourse but to turn to social assistance. Following the introduction of the new federal Divorce Act in 1968, the divorce rate increased from around 52 to over 250 per 100,000 population in 1979. Indeed, in the 1971-81 period, the rate of increase in single-parent families was about twice the rate of increase of total families. For many of these and for others broken in spirit or living in outlying areas where jobs are sporadic or just not available, social assistance offers a sad but necessary life line of income support.

Debt Charges

As was the case with the federal government, debt charges have assumed growing importance in provincial budgets, though the proportion of total expenditures devoted to the service of the public debt varies considerably from province to province (Chart 2-13). In Prince Edward Island, Nova Scotia, and New Brunswick, debt charges represent a higher-than-average proportion of total expenditures. British Columbia and Alberta have a lower ratio of debt charges to total expenditures than the provincial average. Newfoundland went from a below-average to an above-average situation from 1952 to 1982. Some provinces have a more favourable revenue base than others; while some may prefer, or eschew, borrowing simply as a deliberate choice. Some provinces are also able to secure better deals on financial markets because they have more sophisticated debt management or historically they have carried a lower ratio of debt charges to total expenditures.

For all provinces, the ratio of debt charges to total expenditures declined until the late 1960s and exhibited a slow and gradual increase thereafter, reaching, in 1982, a level almost twice that of 1955. New Brunswick, Alberta, and British Columbia followed much the same pattern. In other provinces – for example, in Nova Scotia – the ratio fluctuated more widely. Nevertheless, it remains that each province exhibited a marked increase in the debt-to-expenditure ratio in the late 1970s and early 1980s, an increase prompted by larger deficits and the higher level of interest rates.

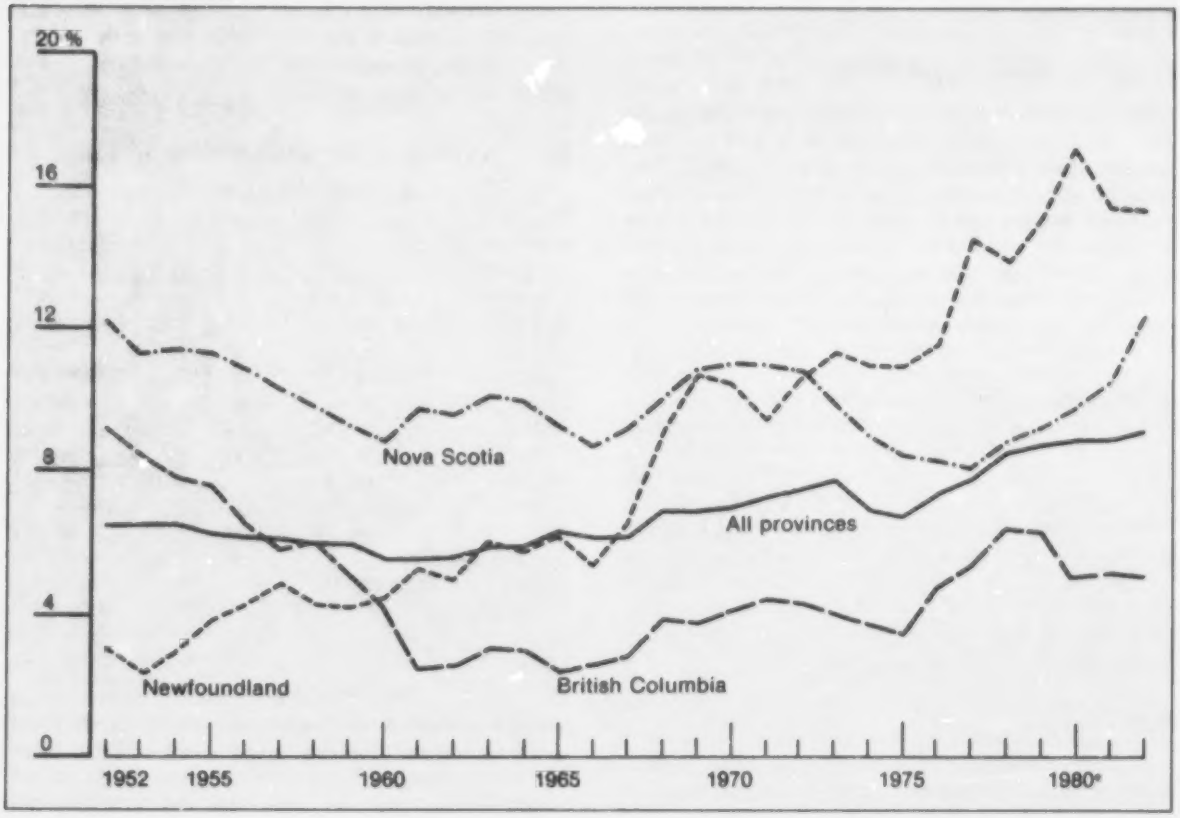
Future Growth of Public Expenditures

Looking ahead, the difficult financial position of both levels of governments will likely constrain any significant broadening of their mandate. Already over the past seven years or so, policy factors have played a lesser role than earlier in the growth of public expenditures as fewer new programs were introduced. No major new programs have been implemented in the social areas of education, health, and social welfare since 1975. The few policy changes affected mainly the transportation, housing, natural resources, manpower, and industrial development areas. In the coming years there will be no lack of pressure to expand or enrich programs, such as pensions, or to strengthen the agricultural and fishing industries, retrain the work force, and rehabilitate the nation's defence capability. Undoubtedly, the aging of the population and the recognition of the concerns of women, native groups, and other minorities will be among the factors dictating the priorities, form, and substance of public spending decisions.

Inflation, which is forecast to remain at modest levels throughout the 1980s, is not expected to have the same strong influence on the relative growth of public expenditures as it did over the past decade. CANDIDE's base case projects a decline in the rate of inflation in the public sector from close to 10 per cent to less than 5 per cent. Demographics will likely account for a continued slowdown of the rate of growth of spending on education at the primary and secondary levels. Some additional pressures may develop at the postsecondary level, however, as more older Canadians need retraining. The maturing and aging of the population will augment pressures for increased spending in the health sector and in income maintenance programs for older Canadians. Payments under the old age security fund are projected to be among the fastest growing federal expenditures. In the hospital sector, there will be continued pressures to modernize and to use the latest in medical drugs and technologies. Unless new solutions are introduced or stronger economic growth is achieved, unemployment will remain a problem, and unemployment insurance benefit payments will continue at a high level. Finally, sociological factors will continue to put some pressure on spending in the social services category.

Chart 2-13

Debt Charges as a Proportion of Total Government Expenditures,[1] Selected Provinces, Canada, 1952-82



1 On an FMS basis.
SOURCE Calculations by the Economic Council of Canada, based on data from Statistics Canada.

What does this mean for each level of government? Over the 1984-90 period, real provincial spending is projected to grow at a rate of 2.5 per cent annually, which is less than the rate of increase in the past seven years. This may lead provinces to pressure the federal government to assume a greater part of provincial costs through transfer payments, especially as the EPFA presently limits the growth of transfer payments. Federal expenditures are projected, in CANDIDE's base case, to grow at an annual nominal rate of 6.8 per cent and a real rate of 2.3 per cent. The latter is slightly lower than the real growth of the economy over the same period and about half the annual growth rate of real federal expenditures over the 1976-83 period.[20]

There can be little doubt that the configuration of federal and provincial government spending is now relatively fixed, leaving only modest room to manoeuvre at either level. In the 1960s and 1970s most of the spending growth was directed towards education, health, and welfare. Today many of the original purposes of existing programs are being served, and government commitment to their maintenance provides a powerful source of economic and social stability and harmony. But the huge amounts required for this spending, in the face of extreme business fluctuation, severely reduce the federal government's capability to implement discretionary contracyclical fiscal policies. Its effectiveness in smoothing fluctuations in the national economy has been narrowed somewhat, with monetary policy playing a more prominent role.

Although the increase in total public expenditures is slowing down, the growing magnitude of debt

charges is a source of concern. Between 1977 and 1982, debt charges expanded at an annual rate of 28 per cent for the federal government and over 16 per cent for provincial and local governments – a faster expansion than in any other major expenditure category and quite a reversal from what happened in the 1960s and early 1970s. Over the 1984-90 period they are projected to increase at close to twice the growth rate of total public expenditures.

Interest payments on the public debt are, of course, merely a form of transfer payment, with taxpayers paying other taxpayers and themselves for offering up savings to the government in an earlier period. But governments may now find themselves in somewhat of a quandary. In order to trim their deficits without raising taxes, they should trim expenditures; but with public debt charges expanding so rapidly, they cannot do so without threatening established policies. And cutting back established entitlement programs extensively is likely to be politically untenable. Indeed, the International Monetary Fund recently argued that "the presence of such large and intractable budgetary costs is a major obstacle to current efforts of most national authorities to reduce their fiscal deficits."[21] Thus, in addition to the way in which governments handle their spending priorities, two other factors will determine the evolution of debt charges: the level of interest rates, and the choice of financing between taxes and further borrowing.

The Evolution of Tax Revenues

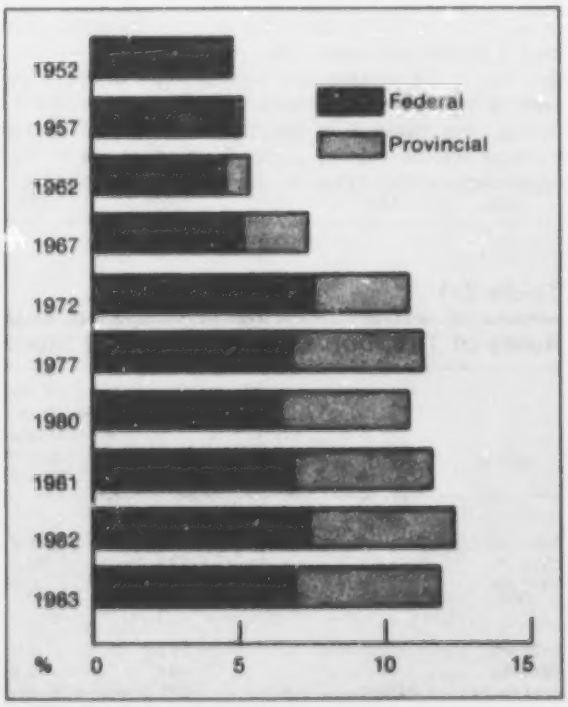
In recent years there has been a marked slowing down in the growth of government revenues as a percentage of GNE relative to the 1961-71 period, when total government revenues from own sources – that is, revenues excluding transfers – grew from 27 per cent of GNE in 1961 to 36 per cent in 1971. Over the following 12 years total revenues from own sources registered an increase of only 4 percentage points. The largest component of government own-source revenue is taxation, which accounts for some 75 per cent of the revenue of all levels of government.

The personal income tax is the most important source of revenue, accounting for 28 per cent of all government revenue. In principle it is a progressive tax, so that higher incomes bear a higher tax rate than lower incomes. As a result, in the absence of indexation, increases in personal income over time generate more than a proportional increase in revenue, with no change in the tax structure. Over the 1950-83 period the personal income tax increased from about 3 per cent of GNE to almost 12 per cent, with a marked slowing down of the increase in this ratio in the post-1975 period (Chart 2-14). More precisely, the ratio of personal income tax revenues to GNE remained fairly stable at the federal level but rose at the provincial level. This was the result of the transfer of taxation points accompanying the Established Programs Financing Agreement, transfers which the federal government did not offset by generating additional taxes or other revenues.

The corporation income tax now accounts for closer to 10 per cent of total revenues, a much smaller percentage of taxation revenue than in the 1950s. In part this reflects a decline in corporate profits as a percentage of GNE, especially during the 1981-83 recession. Federal and provincial corporate tax revenues as a percentage of corporate profits declined from 42 per cent in 1951-60 to 34 per cent in 1974-80 and rose again to 42 per cent in 1981-83. The later increase, however, was due solely to the disastrous effects of the recession on corporate

Chart 2-14

Personal Income Tax[1] as a Proportion of Gross National Expenditure, Canada, Selected Years, 1952-83



1 On a National Accounts basis.
SOURCE Based on data from Statistics Canada

profits, especially since the profits of small corporations, which are taxed at a lower rate, declined more than those of large corporations.

Consumption taxes – the most important of which are sales taxes, taxes on motive fuels, customs duties, and taxes on tobacco and alcoholic beverages – declined in relative importance from 23 per cent of total revenue in 1971 to under 17 per cent in 1980. All major sources of consumption taxes declined in importance. The decline in sales taxes was largely the result of a reduction from 12 to 9 per cent in the federal sales tax rate in 1978. The relative decline in tobacco taxes resulted from a significant drop in tobacco consumption. Higher fuel efficiency and conservation also reduced the motive fuels tax base. Finally, natural resource revenues increased from under 2 per cent of total revenue in 1971 to 4 per cent in 1980. These come mostly from oil and gas production and accrued almost totally to the western provinces.

Changes in Personal Income Tax

Increases in personal income tax levies result from higher average tax rates being applied to taxable income, an increase in taxable income as a percentage of personal income, or rising personal income. From 1950 to 1970, rising real income, together with mild inflation, increased the percentage of income deemed to be taxable and also brought many more income earners into taxable categories. Over this period, the number of taxpayers increased at an average annual rate of some 6 per cent. Both the expanded number of taxpayers and the increased tax paid per person raised dramatically the income tax revenue share of GNE. From 1970 until 1974, heightened inflation and rapidly rising wages and salaries further augmented the tax revenues, despite some slowing down in the growth rate of the number of taxpayers.

In 1974 the federal government indexed the basic income tax exemptions and tax brackets to the rate of increase in the consumer price index, thus eliminating the effect of inflation on taxable income. Growth in real income per person could still have contributed to pushing up the average tax rate, given the progressive nature of the tax system. But because of the very slow rate of growth of real income per person and an increasing number of exemptions and tax credits, the actual average tax as a percentage of taxable income declined from 1974 to 1981.

Over the 1960-70 period, real personal income per capita (less government transfers), measured in constant 1971 dollars, increased by $922 (Table 2-1). The federal and provincial governments increased real personal income tax levies per person by about $278, thus imposing a marginal tax of 30.2 per cent on that increased real income. In the 1970-80 period, the federal and provincial governments imposed a marginal tax of 15.6 per cent on the increase in real personal income, though the rate actually fell to 10.8 per cent after 1974. This pattern reflects the fact that it is easier to raise the average tax paid per person during periods of rapid growth than during a period of low growth, because most individuals can pay the additional taxes and still have increasing after-tax income.

Table 2-1

Rates of Taxation on Real Personal Income,[1] Canada, Selected Periods, 1950-80

	Marginal tax rate on increase in real personal income per person			Average tax rate on personal income over the period		
	Federal	Provincial	Total	Federal	Provincial	Total
			(Per cent)			
1950-60	18.5	1.2	19.7	6.7	0.1	6.8
1960-70	17.6	12.6	30.2	8.1	2.6	10.7
1970-80	5.7	9.9	15.6	9.6	5.6	15.2
1970-74	11.6	7.2	18.8	10.7	4.8	15.5
1974-80	-3.1	13.9	10.8	9.2	5.9	15.1

1 On a National Accounts basis. Real personal income and income tax are deflated by GNP implicit price index for consumer goods and services.
SOURCE Based on data from Statistics Canada.

The slowdown in the rate of growth of income tax revenue is the combined result of a slowdown in the growth rate of real income per person and of a decline in the effective marginal tax applied to increased real personal income per capita. If the same combined federal and provincial marginal tax of 30.2 per cent on increases in real income per person that was in effect during the 1960s had been applied to the increases in real personal income per capita from 1975 onwards, total federal and provincial income tax revenue would have been more than $7.6 billion higher in 1981 and would have raised an extra $40 billion over the 1975-83 period (Table 2-2). This would have raised the average tax on personal income to 18.4 per cent by 1981, an increase of some 3 percentage points over the current rate.

While these are first-round estimates only, they show the magnitude of revenue loss attributable to the lower marginal rates of taxation of real income after 1974. If real income per person had grown in the post-1975 period at the same rate as in the 1960s, government revenues would have been some $4.7 billion higher in 1981, and some $40 billion in extra revenue would have been generated over the 1975-83 period. This is the revenue loss attributable to slower real growth. Putting the two together, federal and provincial income tax revenues would have been higher by some $14.5 billion in 1981; and extra revenues of $99 billion would have been collected over the 1975-83 period had real income growth and the marginal tax on increases in real income been the same as those in the 1960s.

Our research thus shows that much of the fiscal plight of governments today is of their own making, since they have forgone in various ways revenues that in earlier days they were able to levy effectively. But these decisions cannot be dissociated from Canada's economic performance. In the late 1970s and early 1980s, when growth was slow and inflation and unemployment high, governments were reluctant to increase marginal income tax rates as high as in the past because of possibly further depressing economic activity. By indexing the personal income tax exemptions and tax brackets they also removed the implicit built-in inflationary revenue escalator feature, and they were somewhat reluctant to make this up by visible tax rate increases through specific legislation. The one major attempt to raise federal taxes in the November 1981 budget, mainly through the elimination of concessions or exemptions from certain forms of taxes, met widespread opposition and was subsequently greatly watered down.

Table 2-2

Additional Personal Income Tax Revenue under Different Scenarios, Canada, Selected Years, 1975-83

	1975	1977	1980	1981	1982	1983
	(Millions of current dollars)					
Additional income tax revenue if:						
- the marginal tax rate of the 1960s (30.2 per cent) is applied to the actual increase in real income;	1,642	1,875	6,261	7,618	5,537	4,793
- the actual marginal tax rate is applied to the difference between the actual increase in real income and that attained if rate of growth were the same as that in the 1960s;	196	1,265	4,101	4,671	9,759	14,045
- the difference between the actual and the marginal tax rate of the 1960s is applied to the difference between the actual increase in real income and that attained if rate of growth were the same as that in the 1960s;	96	617	2,000	2,278	4,759	6,850
- the marginal tax rate of the 1960s is maintained and real income grows at the average rate for the 1960s (sum of scenarios 1, 2, and 3)	1,934	3,757	12,362	14,567	20,055	25,688

SOURCE: Calculations by the Economic Council of Canada, based on data from Statistics Canada.

Forgone Revenues and Tax Expenditures

Just as indexation altered the growth of personal income tax revenues, similar measures affected the growth of revenues from corporate income tax and from sales tax. Many of these exceptions take the form of exemptions or credits, and they are better known as tax expenditures. Simply stated they are special provisions in the tax system that allow preferential treatment for certain taxpayers.

Basically, tax expenditures can take three forms. First, deductions can reduce taxable income. These can be universal exemptions such as the basic personal exemption in the income tax system or specific exemptions such as those for married couples, children, and thrifty taxpayers – the RRSP and RHOSP. Second, tax credits – such as the child tax credit or the investment tax credit – reduce the amount of tax an individual or business has to pay. Finally, revenues from certain kinds of industries are not subject to tax, such as clothing and footwear, at the federal level.

Tax expenditures are intended to redress some of the distortions created by taxation (such as the choice between consumption and saving or the choice between work and leisure), to improve the equality between taxpayers with respect to their ability to pay (exemptions for old age, for children, or for married people), to modify private choices to achieve public objectives, and more generally to implement social policies (MURBs, RHOSPs). Tax expenditures have been called upon as a substitute for direct government spending in a period of "restraint"; hence in the 1970s existing tax expenditures were broadened, and new ones proliferated.

On the personal side, there have been increases in the basic exemptions, indexation of the personal exemptions and tax brackets, an increase in the personal employment deduction, the $1,000 interest deduction for investment income, the $1,000 deduction for pension income, as well as RHOSPs. The federal sales tax was removed from clothing and footwear in 1974. The federal sales tax rate for building materials was reduced, and an investment tax credit was introduced in 1975. Two-year write-offs for investment in manufacturing and processing were introduced in 1972, as well as lower corporate taxation on profits for corporations operating in this line of business. To stimulate housing construction, particularly rental units, the Multiple Unit Residential Building (MURB) program was introduced in 1974, which allowed investors in apartments and other rental units to claim the full capital cost allowance. To strengthen personal spending, the personal employment expense deduction was raised in 1977.

By 1980 some concerns were being expressed over the rapid increase in tax expenditures. Since the October 1980 federal budget, tax expenditures must be included in spending envelopes to ensure that the costs are justified by the incentives they are supposed to provide. Before that, the revenue loss of new tax expenditures was not included in budgetary allocations.

The cost to the government purse of the various tax expenditures and forgone revenues has reached high levels indeed (Table 2-3).[22] In 1980 tax assistance for RRSPs could have cost the federal government as much as $2.6 billion.[23] The fast write-off and other tax expenditures in the resource sector that were expected to provide a strong incentive for oil companies to speed up oil exploration and investment are estimated to have cost the federal government $1.9 billion in lost revenues. The child tax credit, which is an income-tested partial substitute for family allowances, cost almost $1.5 billion in 1982. The exemption of food items from sales tax cost more than $2.5 billion; the federal exemption of clothing and footwear from sales tax cost over half a billion dollars. Among forgone revenues, the policy of not taxing capital gains on a principal residence could have cost the federal government as much as $3.5 billion in 1980 according to Department of Finance estimates. And the list goes on. The point is that these tax expenditures and forgone revenues, however worthwhile, may place a significant burden on the federal purse and, indirectly, on provincial revenues.

Whence the Deficits?

It is quite clear from this analysis that the difficult financial situation of governments, particularly at the federal level, cannot be blamed solely on the increase in current government spending. Today Canadians enjoy a legacy of social and other major expenditure programs that have been inherited from the 1960s and early 1970s when new initiatives were made by all levels of government, buoyed by the extra revenues brought about by economic growth. In the late 1970s, although fewer major new spending programs were introduced, a combination of demographic, social, and economic factors put upward pressure on spending within established mandates. At the same time, revenues failed to keep pace with expenditures, to a large extent because of deliberate policy decisions. Indexation and other tax expenditures, slower growth in real income, and a decline in corporate profitability contributed to the tax shortfalls and the recourse to deficit financing.

Looking ahead, government deficits cannot be reduced exclusively by contracting expenditures. The

Table 2-3

Selected Federal Government Tax Expenditures and Forgone Revenues, Canada, 1976-82[1]

	Tax expenditure or forgone revenue	Tax	1976	1977	1978	1979	1980	1981	1982	Date introduced
					($ Millions)					
General business and investment incentives										
• Dividend gross-up and tax credit for individuals	TE	PIT	170	180	540	685	800	1,077	1,155	1971
• $1,000 investment income deduction	TE	PIT	455	455	515	600	665			1974
• Preferential tax treatment of income debentures and term preferred shares	TE	CIT	40	110	280	400	400			
• Exemption of nonmanufacturing commercial uses of fuel and electricity from sales tax	TE	SET	175	235	280	240	290			
• Lower corporate income tax rate (small business)	TE	CIT	745	748	950	1,200	1,283			
Research and development										
• Immediate write-off on R&D expenditures	TE	PIT	S	S	S	S	S			
		CIT	40	48	54	58	63			
• Additional allowance of 50 per cent of incremental R&D expenditures	TE	CIT	...	...	28	32	34			
• Investment tax credit on R&D expenditures	TE	CIT	...	10	20	40	45			1975
Manufacturing sector										
• Lower corporate income tax on manufacturing	TE	CIT	..	..	..	..	..	472		1972
• Investment tax credit on manufacturing investments	TE	CIT	..	..	..	..	..	405		1975
• Two-year write-off on manufacturing and processing assets	TE	CIT	..	..	..	..	..	..		1972
Resource sector										
• Fast write-off for Canadian exploration expenses • Fast write-off for Canadian development expenses • 33⅓ per cent earned depletion allowance	TE TE	PIT CIT	S 335	S 530	S 755	S 1,000	S 1,250			
• Additional earned depletion on frontier oil and gas well exploration costs	TE	PIT	...	10	20	30	10			
		CIT	...	20	45	65	20			
• Excess tax depreciation over book depreciation, general	TE	CIT	170	195	275	295	370			
• Investment tax credit on resource development	TE	CIT	50	60	70	90	125			1975
• Nonadjustment of specific sales tax rate on gasoline	TE	SET	...	40	125	40	45			
Other sectors										
• Exemption of transportation equipment from sales tax	TE	SET	195	205	270	240	265			1974
• Investment tax credit on farming and fishing investments	TE	PIT	35	35	45	75	90			1975
		CIT	S	5	10	10	15			

Table 2-3 (concl'd.)

	Tax expenditure or forgone revenue	Tax	1976	1977	1978	1979	1980	1981	1982	Date introduced
						($ Millions)				
Income maintenance										
• $1,000 pension income deduction	TE	PIT	78	80	95	100	105	140	140	1974
• Age exemption under PIT	TE	PIT	128	125	160	175	185	345	390	
• Tax advantage on savings in RPPs and RRSPs	TE	PIT	1,400	1,360	1,650	2,000	2,600		(RRSP)	1957
• Tax advantage on savings in CPP/QPP	TE	PIT	265	265	325	405	540			1966
• Marital exemption	TE	PIT	930	910	945	1,000	1,055			
• Exemption for wholly dependent children	TE	PIT	610	610	650	650	655			
• Exemptions for other dependants	TE	PIT	30	25	25	25	25			
• Child tax credit	TE	PIT	...	...	875	925	975	1,070	1,500	1978
• Preferential tax treatment of workers' compensation	TE	PIT	180	180	200	220	240			
• Exemption of food and nonalcoholic beverages from sales tax	TE	SET	2,040	2,260	2,520	2,110	2,370	2,450	2,580	
• Exemption of home-heating fuels and electricity from sales tax	TE	SET	260	305	375	300	365	570	590	
• Exemption of clothing and footwear from sales tax	TE	SET	500	530	585	495	555	675	715	1974
Housing and urban renewal										
• Multi-unit residential building (MURB) provision	TE	PIT	20	25	40	45	..			1974
		CIT	..	..	..	..	..			
• Reduced sales tax on building materials and equipment	TE	SET	460	525	595	390	445			1974
• Registered Home Ownership Savings Plan (RHOSP)	TE	PIT	105	94	92	95	95			1974
• Nontaxation of capital gains on principal residence	FR	PIT	3,150	3,100	2,950	3,000	3,500			
Culture and recreation										
• Deductibility of itemized charitable donations and the $100 standard deduction	TE	PIT	320	300	320	345	375			
		CIT	35	40	40	45	50			
Other tax preferences										
• Nontaxation of certain federal Crown corporations	FR	CIT	..	..	..	..	..			

S Revenue impact expected to be small, less than $5 million.
PIT Personal income tax.
CIT Corporate income tax.
SET Sales and excise tax.
TE Tax expenditure.
FR Forgone revenue.
1 Data for 1981 and 1982 may not be comparable to those published by the Department of Finance in the *1980 Tax Expenditure Account*. Some of these numbers and the underlying methodology are currently under revision.
SOURCE Based on data from Department of Finance Canada and Statistics Canada.

legitimate concerns of many Canadians, together with the changing composition of the population, will continue to put upward pressure on expenditure growth, and large reductions will not be possible without a major modification of governments' mandates. Moreover, debt charges will continue to be a major contributor to the increase in government spending. Thus significant strengthening of the revenue side is likely to be needed to enable governments to escape their current predicament. But the form, substance, and timing of these revenue increases will be crucial.

3 The Public Debt

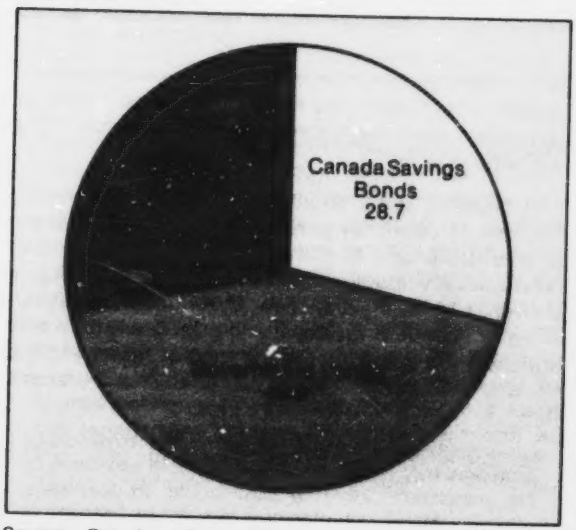
Without question the public debt in this country is unprecedentedly large. The federal debt – which includes treasury bills with a term to maturity of 90 or 180 days, Canada Savings Bonds redeemable on demand, and government bonds with medium to long terms to maturity – amounted to over $138 billion at the end of 1983 and to about $150 billion by mid-1984 (Chart 3-1). For all levels of government combined, debt outstanding stood at about $280 billion at the end of 1983. Even allowing for inflation, this represents a huge increase from the $20 billion outstanding some 30 years earlier and is a source of mounting concern across Canada (Chart 3-2).

But when these figures are compared with the growth of debt in the private sector, there may be less cause for alarm. In 1962, government bonds represented more than 80 per cent of all private and public bonds outstanding. Ten years later the ratio was down to about 76 per cent. Only in 1978 did the ratio begin rising again, reaching 78.5 per cent by 1982 – but still less than two decades ago.

The question, then, is whether or not there is cause for undue worry about the public debt. The answer depends upon the affordability of the debt and upon its impact on debt management and the behaviour of the private sector. But before we consider each of these aspects, a quick review of the factors contributing to the growth of debt at both the federal and provincial levels is in order.

Chart 3-1

Percentage Distribution of Total Federal Government Direct Debt Outstanding, by Debt Instrument, Canada, 1983



SOURCE Data from Bank of Canada.

The Growth of the Public Debt

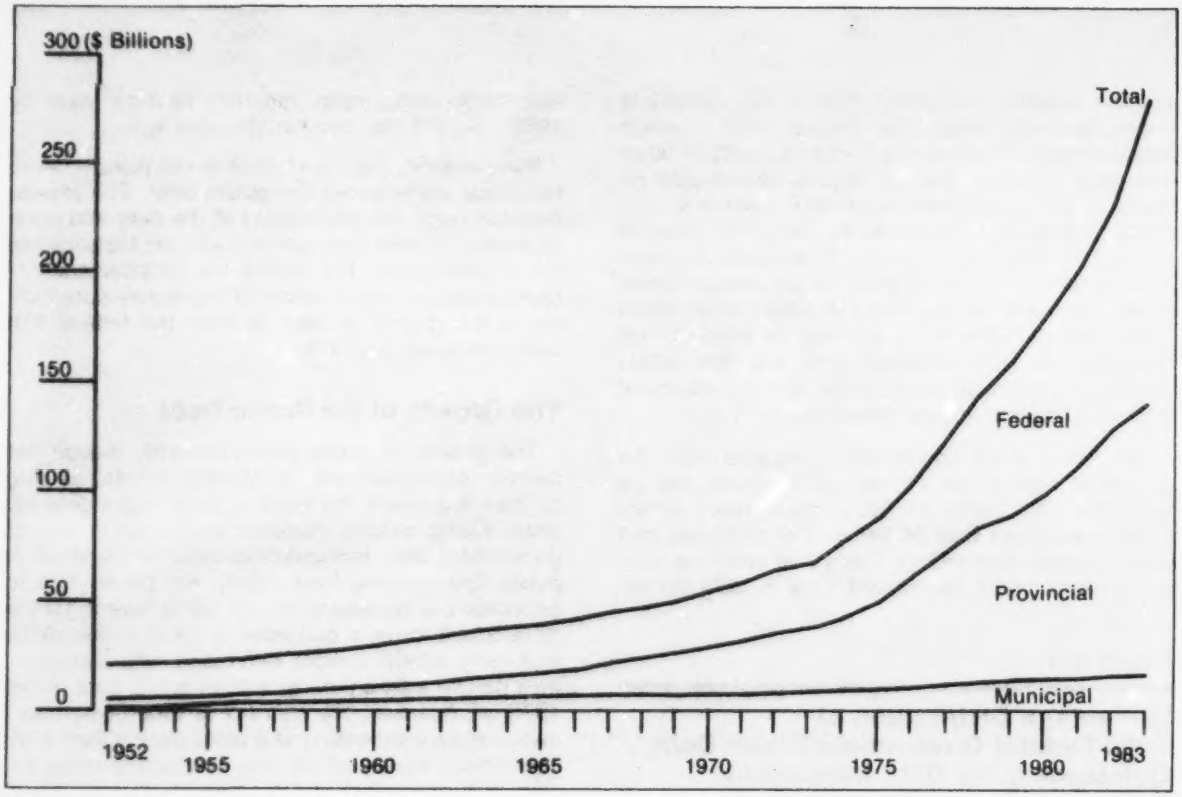
The growth of public debt is mostly, though not entirely, associated with budgetary deficits; as long as there is a deficit, the stock of government debt will grow. Rising deficits translate into a faster rise of government debt; falling deficits result in the stock of public debt growing more slowly. For public debt to be retired it is necessary, though not sufficient, for the government to run a budgetary surplus. In the 1950s and early 1960s, deficits alternated with surpluses, thus putting a lid on the growth of public debt. From 1975 on, however, the shortfall of total government revenues kept increasing at a rapid pace (Chart 3-3). The deficits increased not only in absolute value but also as a proportion of the country's gross national expenditure, to highs not recorded since the Second World War.

A second, albeit less important, factor that contributes to the increase in public debt outstanding is the recourse to financial markets to fund some of the government's off-budgetary activities, particularly loans and advances to the private sector and to various agencies of the Crown. Consequently, public debt outstanding may increase even when governments are in a surplus position, as actually happened in the 1960s. The growing importance of guaranteed debt, particularly at the provincial level, reflects the indirect liability of governments on behalf of agencies whose main objective is to implement government policies (Chart 3-4).

The growth of the public debt has brought into question the management of the public purse. It has also raised the question of why governments resort to borrowing when they have the power to confiscate, through taxation, the resources needed to fulfil their mandate.

Chart 3-2

Direct and Guaranteed Debt Outstanding, by Level of Government, Canada, 1952-83



SOURCE Based on data from Bank of Canada.

The Choice between Taxes and Borrowing

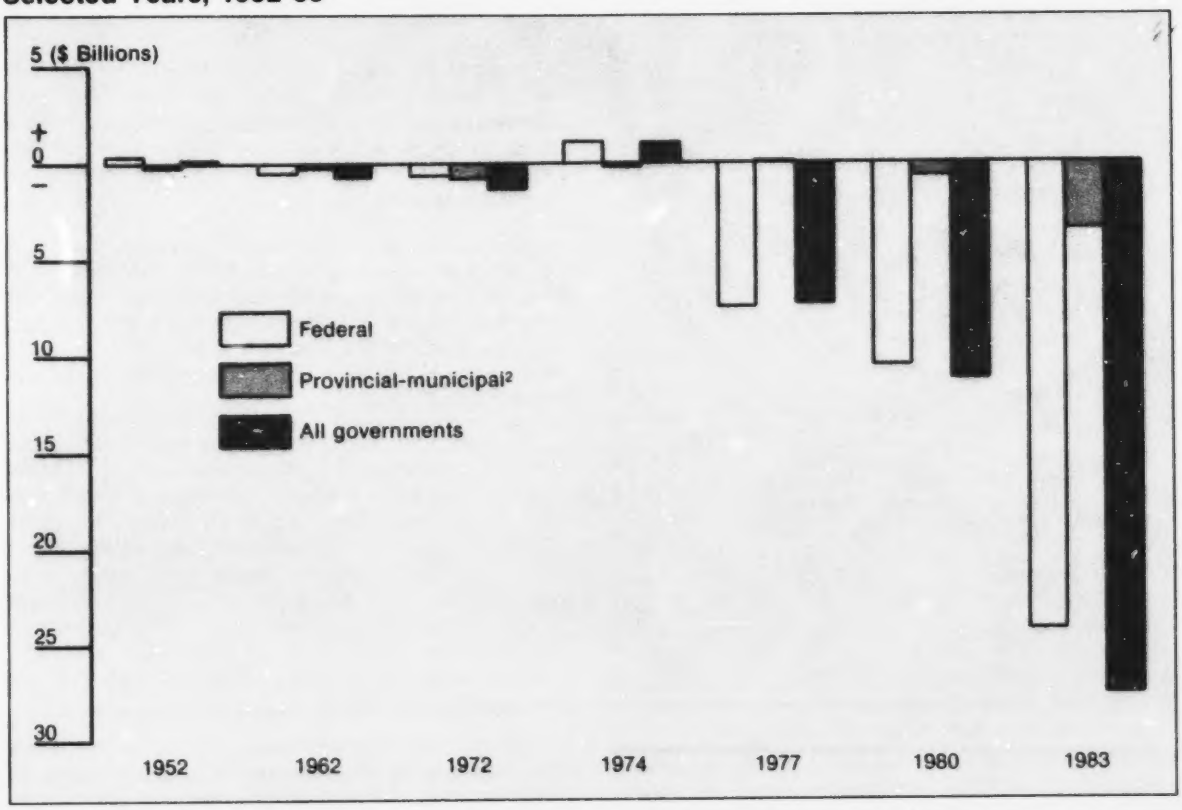
The choice between taxation and debt financing depends upon many factors. There is the issue of redistributing income between citizens of the same generation, and between different generations.[1] Deficit financing of certain categories of expenditures may be preferable to taxation, from the perspective of efficiency and equity. Over time, debt financing of capital expenditures could provide for a better match between the flow of benefits and the cost of an investment project and would allow for a better redistribution of the burden of financing capital spending. Factors such as the temporary or permanent nature of an expenditure to be financed may also come into play.[2] Thus governments in their fiscal planning may prefer deficit finance to an increase in taxes. At other times, such as recently, when governments faced unforeseen expenditures, they found the deficits thrust upon them. As well, there could be short-term cash management reasons for running a temporary deficit.[3]

In addition, governments may resort to borrowing because of what they perceive as limits – if not legal, at least political – to the amount of funds they can raise through taxation. Moreover, deficit financing is convenient, making it easy for governments to spend, since the costs of an expenditure program may only appear a few years later in the form of taxes. Indeed, the eminent U.S. economist James Buchanan argues that:

> Governments increasingly enact public expenditure programs that confer benefits on special segments of the population, with the cost borne by taxpayers generally. Many such programs may not be financed in the face of strenuous taxpayer resistance but might well secure acceptance under debt finance.[4]

Chart 3-3

Budgetary Position of Governments,[1] by Level, Canada, Selected Years, 1952-83



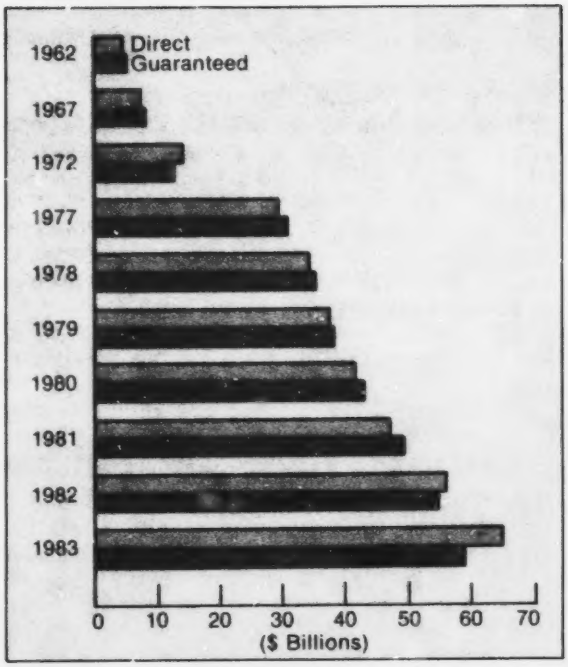
1 On a National Accounts basis.
2 Including hospitals.
SOURCE Based on data from Statistics Canada.

In addition, there are macroeconomic stabilization considerations. Even today, most policy strategists favour the Keynes prescription that governments run a deficit when there is a shortfall in aggregate demand and a surplus when there is a high demand on the limited resources of the economy. In other words, they advocate that deficit financing be used to foster economic growth and to fight unemployment during recessions and that government budgets be in a surplus position to let the steam out of an overheated economy in inflationary times. Very roughly, this means that budgets should be balanced when the level of aggregate demand provides for an economy running at "cruising speed."

In effecting stabilization policies, the federal government has two ways to finance its deficit: it can borrow from the public at large, or it can secure loans from the Bank of Canada.[5] Borrowing from the Bank leads to an increase in its assets and can give rise to an increase in the monetary base and to a subsequent rise in the money supply, with possible attendant inflationary consequences. An increase in the money supply is not automatic, however, as the Bank may neutralize the impact of government actions through various operations, such as compensating open-market operations or changes in primary or secondary reserve requirements. When the government borrows from the Bank it is often said that the deficit, or a portion thereof, is being "monetized." Alternatively, if government borrows from the public, including institutional savers such as pension funds or banks, it may impinge on the borrowing opportunities of private investors.[6]

Chart 3-4

Total Provincial Government Direct and Guaranteed Debt Outstanding, Canada, Selected Years, 1962-83[1]



1 Data for 1983 are estimates only.
SOURCE Data from Bank of Canada.

Beyond their mandate to stabilize economic activity, governments also have a duty to promote long-term economic growth. An adequate supply of money and well-functioning financial markets are important contributing factors. Federal government securities provide the base for the expansion of the Canadian money supply; they also offer a liquid, and virtually default-free, asset that enables investors to diversify their portfolios. This favours maintaining a small deficit or a reduced surplus over the years to provide a growing economy with the needed government securities.

The Federal Public Debt

In the three decades from 1952 to 1983, the federal government experienced deficits in 20 years; but only in recent years have they become a large element in the federal budget (Chart 3-5). Between 1952 and 1974, years of deficits alternated with years of surpluses, and quite often the surpluses were large enough to compensate for a few years of accumulated deficits. Since 1978, however, the deficit has grown rapidly, having reached $24 billion in 1983. And, according to projections accompanying the federal budget speech of February 1984, the deficit will decline only slowly to about $18 billion by 1987.

In tandem, the outstanding federal public debt skyrocketed in the late 1970s and in the 1980s. The Department of Finance estimates that federal public debt per capita will reach $6,000 by the end of 1984 and will rise annually by as much as $1,000 per person until 1988.

Public debt outstanding as a proportion of GNE declined substantially in the 1950s and 1960s with the gradual retirement of the wartime debt and with budgets roughly in balance over the longer run. But this trend reversed in the 1970s; from 1975 to 1983, debt as a proportion of GNE increased by 34 per cent.

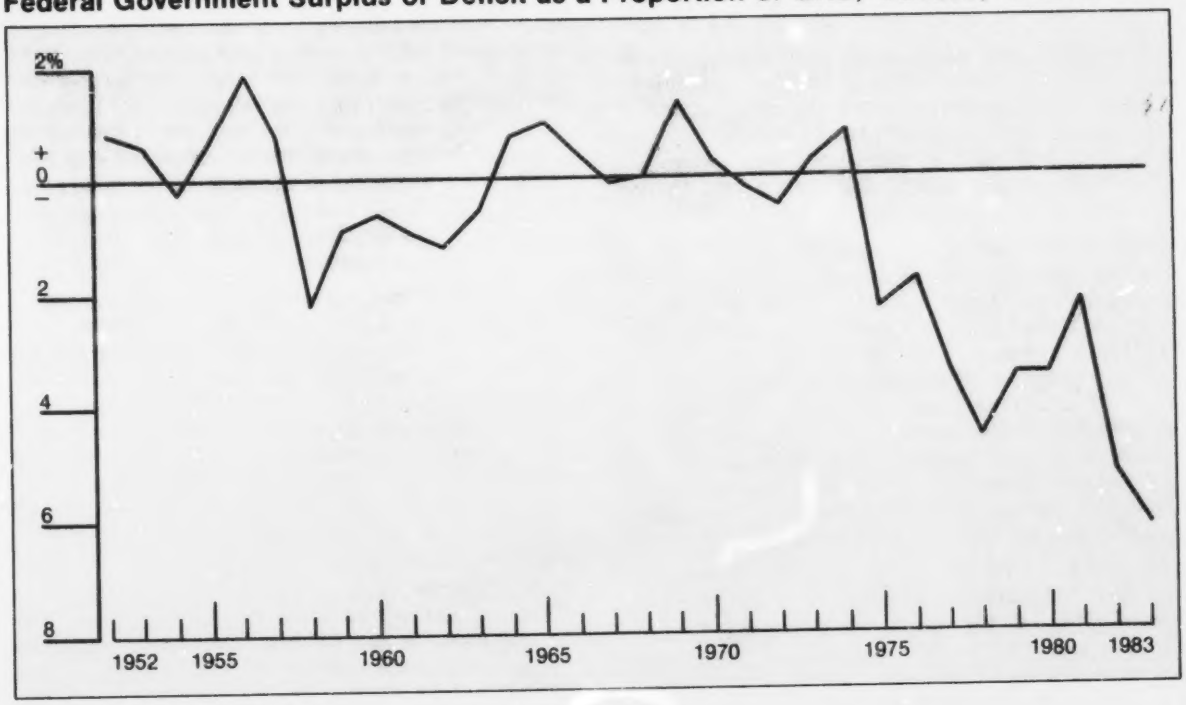
Of course, in calculating the real economic burden of government deficits, adjustments have to be made for cyclically slack economic activity and for inflation. As the Council discussed in its Twentieth Annual Review, deficits should automatically shrink with a pick-up in the economy. Calculations adjusting for cyclical slack may, however, turn out to be overoptimistic, since they are often based on the growth and employment performance of the 1960s and early 1970s, which is not likely to be attained over the course of the 1980s.

So too, the real economic impact of the deficit alters somewhat when allowance is made for inflation. With inflation, the real value of the debt will decline, and it will be repaid in depreciated currency; thus its real value is below its face value or parity.[7] The pool of savings that contributes to the financing of the deficits, however, has also to be adjusted for inflation. Moreover, when both expenditures and revenues are adjusted for inflation and a "real government deficit" is calculated from the adjusted figures, the "real deficit" turns out in 1981 to be larger by $5 billion in current dollars than the deficit obtained by adjusting net federal liabilities alone. The difference between the two measures is explained by a transfer of resources from the creditors (the holders of government bonds) to the debtor (the government of Canada) through the depreciation of the real value of government debt outstanding – the asset held by the creditors.

And however much calculations may show that the real net liabilities of government are less than the nominal liabilities, this does not necessarily alleviate the problem of financing them. Even if the "real government deficit" disappears through adjustments

Chart 3-5

Federal Government Surplus or Deficit as a Proportion of GNE,[1] Canada, 1952-83



1 On a National Accounts basis.
SOURCE Based on data from Statistics Canada.

for inflation and for the slack in the economy, the nominal deficit has to be financed.

Capacity to Assume Debt Charges

While the continuous accumulation of public debt is cause for some concern, it is worth recalling that the ratio of debt to GNE was much higher in the late 1940s and early 1950s than it is today – a legacy of the Great Depression and of the Canadian war effort – and even now the ratios vary substantially among OECD countries. The level of debt that becomes critical depends, among other factors, on the capacity to assume the burden, which in turn is not independent of general economic conditions. Thus the ratio of public debt to GNE is one of the measures of the capacity to repay the principal amount of the outstanding debt.

Another measure – the ratio of interest payments on the public debt to the country's GNE – indicates the proportion of one year's expenditure that will have to be diverted to service the debt. The deterioration in recent years has been quite noticeable, as the ratio moved from 2.1 in 1972 to 4.5 per cent in 1983, having reached 4.7 per cent in 1982, when GNE was pulled down by the recession. Although most, if not all, of the federal debt is rolled over at maturity, investors will be willing to "roll over" the federal debt only so long as they believe in the capacity of the government to liberate its debt obligations.[8]

The ratio of debt charges to total revenues – including taxes, fees, royalties, and transfers from other governments – is another indicator of the capacity of governments to assume their outstanding debt. Interest payments on the federal debt represented about 12 per cent of total revenues until the mid-1970s but rose thereafter to reach a post-Depression high of 25 per cent in 1982 and again in 1983. But, as will be seen in the next chapter, this is not unique to governments, as a rising proportion of the income of Canadian corporations goes towards servicing their debt.[9] Thus, for both governments and the private sector, debt management and accessibility to financial markets are critical factors.

Market Accessibility and Debt Management

With large federal government deficits and growing cash requirements, federal debt managers worry that some government bond issues may be badly received in the market, particularly if the timing is off. A federal bond issue has not yet been completely rejected by the market; but with interest rate volatility, a government issue may not be well received if the financial environment changes after the announcement of the terms (price and maturity) of the issue, as was the case on two occasions at the beginning of 1984.

Market accessibility can be greatly enhanced and the cost of an issue somewhat lowered through appropriate debt management. (Debt management in Canada is more fully discussed in Appendix B.) The primary objective of debt management is to secure sufficient funds, at minimum cost, to finance maturing issues and to cover government cash requirements resulting from budgetary deficits and from nonbudgetary transactions, such as loans to businesses or Crown corporations. Other related objectives are to develop a vigorous capital market in Canada and to minimize disruptions in it.

Such objectives are usually achieved by broadening the range and distribution of government debt, by effectively managing selling operations, by developing efficient secondary markets for government securities, and by achieving a balanced maturity structure. In the past, both the federal and provincial governments have been actively involved in broadening the range of government instruments, improving selling operations, and seeking the most balanced maturity structure possible. But in recent years the combination of high interest rates and rapidly increasing cash requirements has, in many instances, forced debt managers to focus on raising the needed cash however, and in whatever form, they can. This has resulted in a general shortening of the term of the debt at both levels of government and in an undermining of the objective of balancing the maturity structure of debt instruments.

At the federal level, there was a sharp increase in the recourse to short-term treasury bills in the 1970s, and in recent years as well (Chart 3-6). The relative importance of treasury bills more than tripled between 1955 and 1983. In 1983, federal debt with a maturity of three years or less represented 58 per cent of the total federal government securities outstanding. More frequent issues, with short- to medium-term maturities, will considerably increase the government's financing needs in five or ten years.

The federal government has recently attempted to diversify its portfolio. It successfully reduced its reliance on Canada Savings Bonds, which are a short-term and often volatile liability. In the late 1970s it introduced auctions of two-year treasury bills. The attempts to diversify the composition of the debt outstanding in recent years may be a reaction to the increase in interest rates and to the rise in federal government cash requirements. Despite these measures, portfolio management problems may loom if deficits remain at their current high level, because a larger number of bonds will mature at the same time. They will require refinancing and dramatically increase the borrowing needs of governments.

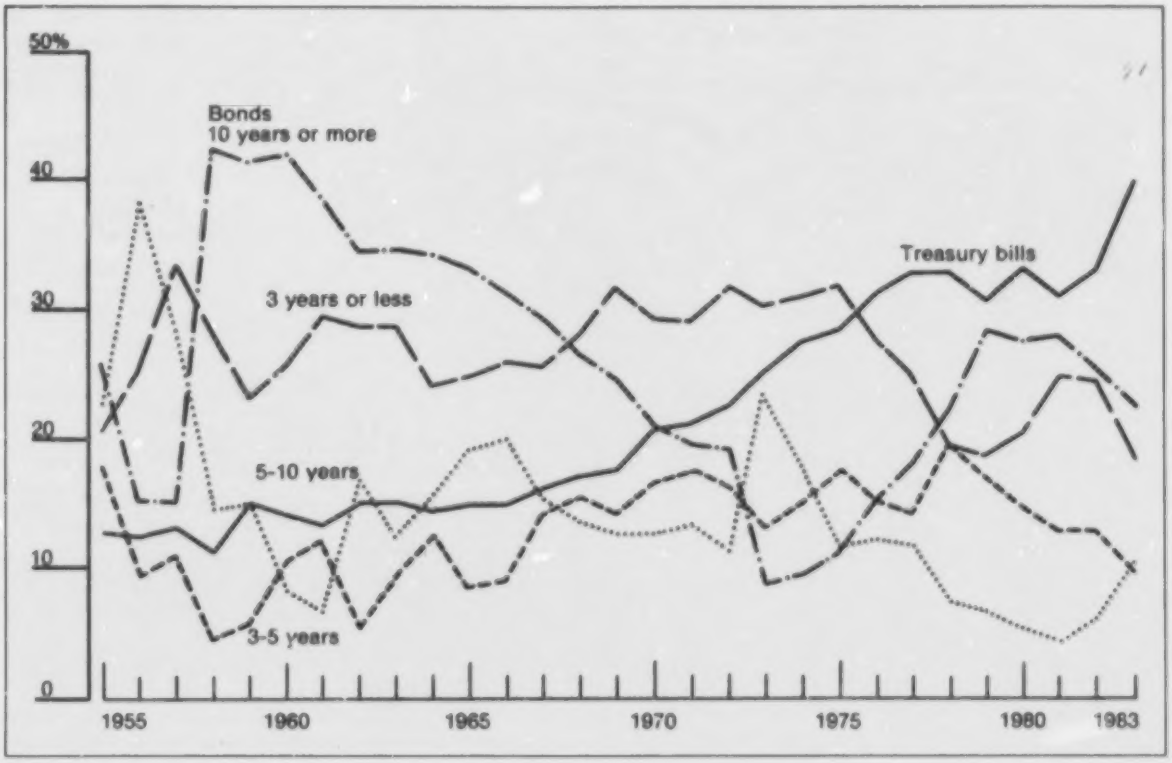
Although there is definite concern over the size of the deficit and the resulting need to tap financial markets or to borrow from the Bank of Canada, and despite continuous consultations in the budgetary process between the Department of Finance, Treasury Board, and the Bank, the relative size of the federal debt is not formally viewed as a budgetary constraint. It enters the federal budget as one of the spending envelopes; but it is a category of spending over which the government has little control once the level of other expenditures and taxes has been set. The level of debt and debt service charges should, instead, enter as a constraint in choosing how to finance government spending.

Nor has the government attempted to match a form of financing with a category of expenditure. The federal government does not have a separate capital budget, though economists in both the United States and Canada have advocated separating the budget into a capital and an operating account. While it is generally recognized that governments should borrow mostly to finance capital expenditures, the federal government has the prime responsibility for stabilizing the economy, and deficits are key to that role. The two are not incompatible, as it might seem, since government is often called upon to compensate for a shortfall of private investment.

There are, of course, practical difficulties with having separate budgets for current and capital expenditures. The first resides in the distinction between capital and current items. Some cases are straightforward; for example, the construction of a highway would definitely fall in the capital account. Spending on manpower training, however, is not as clear-cut. Most would view that as a current expenditure; but it could also be considered an investment in human capital, the benefits of which would accrue to society as a whole. Thus the singling out of capital expenditures is necessarily an arbitrary process, and this may reduce the usefulness of capital budgets. Second, the establishment of a separate capital budget would carry a strong presumption that capital outlays should be financed by borrowing as distinct from current expenditures, which should be tax-financed. But traditional finance theory only stipulates that investment expenditures should be financed by

Chart 3-6

Maturity Structure of Federal Government Debt, Canada, 1955-83



SOURCE Data from Bank of Canada

long-term funds. In the case of a corporation or of an individual, long-term funds may take the form of long-term debt or equity. For government, tax proceeds are the equivalent of equity; therefore a case cannot be made that the totality of capital investment should be financed through borrowing. Some may still continue to be financed through tax revenues.

In summary, the growing indebtedness and rising debt charges have not, so far, been the source of major debt management problems for the federal government. They have made life somewhat harder for federal debt managers. But the real concern is with the future, especially since there are no formal mechanisms in place to limit the growth of public debt.

The Provincial Debt

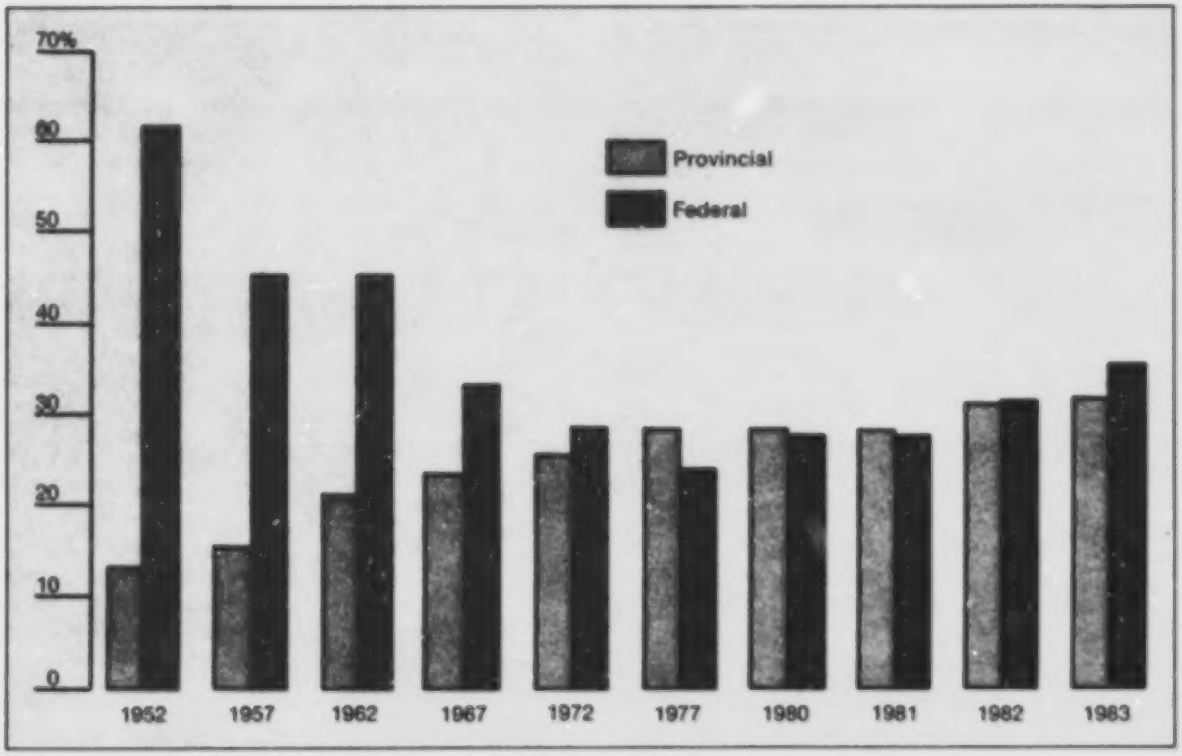
As at the federal level, deficits have alternated with surpluses over the past 30 years at the provincial and local levels. From 1952 to 1983, all the provincial governments together showed a surplus in seven years and a deficit in twenty-three. From 1975 on, however, deficits – and large ones – have been the order; in 1983, provincial governments registered a combined deficit of $2.9 billion (see Chart 3-3). Local governments registered a deficit throughout the period; hospitals were generally in a surplus position. Provincial and municipal debt outstanding as a percentage of gross domestic product rose commensurately (Chart 3-7).

Capacity to Assume Debt Charges

Although the overall ratio of provincial debt to GDP indicates the proportion of resources that will have to be diverted by the provinces to repay their debt outstanding, it may not provide a full picture of the situation. Indeed, part of the debt incurred or guaranteed by provincial governments could be considered self-sustained. This is debt contracted by revenue-

Chart 3-7

Federal and Provincial Government Debt[1] as a Proportion of GNE, Canada, Selected Years, 1952-83[2]



1 On a National Accounts basis.
2 Provincial data for 1983 are estimates only.
Source: Based on data from Statistics Canada and from Bank of Canada.

producing government agencies, such as the various hydro and telephone companies, or the portion of debt covered by sinking funds. These should be subtracted from the debt figures to obtain a more accurate indication of the debt burden. In recent years, while the situation varied from province to province, in Nova Scotia, New Brunswick, and Saskatchewan, for instance, the ratio of net debt to provincial GDP increased rather dramatically.[10]

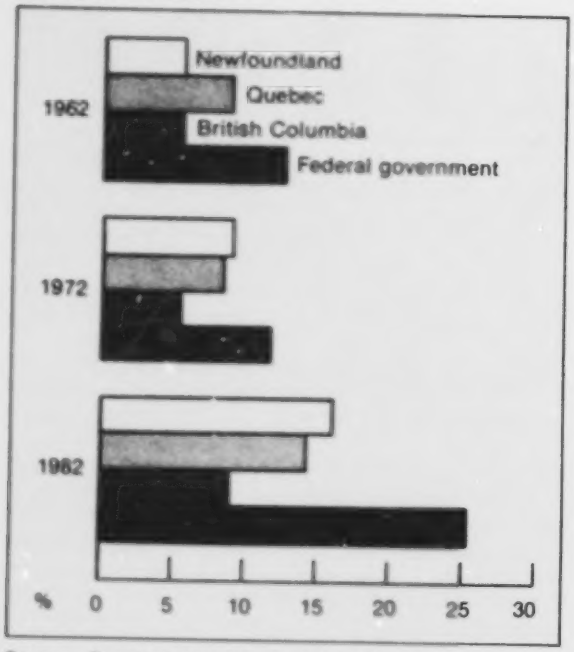
Another indicator of the capacity to repay the principal outstanding is provided by net debt per capita. Net funded debt per capita in 1982 reached $4,300 in Newfoundland, $4,000 in Nova Scotia, $2,800 in New Brunswick, $2,100 in Quebec, and $2,000 in Ontario.

The highest ratio of interest payments to provincial GDP – a third indicator of the burden of the debt – is currently registered by Newfoundland, followed by Nova Scotia; British Columbia and Alberta have low ratios. For most provinces the ratio of interest payments on the public debt to gross domestic product increased over time, especially in more recent years. From 1961 to 1982 the ratio increased fivefold in Newfoundland; it more than doubled in Quebec and Manitoba. Debt charges as a percentage of GDP are generally higher for provincial governments than for the federal government, as the service of the federal debt is supported by the total Canadian economy.

A fourth indicator – the share of total revenues devoted to servicing the debt – varies from province to province, with Newfoundland on the high side and British Columbia on the low. The ratio of debt charges to total revenues generally increased in recent years, having more than doubled between 1962 and 1982 in several provinces (Chart 3-8).

Chart 3-8

Debt Charges as a Proportion of Total Revenue, Federal Government and Selected Provinces, Canada, 1962, 1972, and 1982



SOURCE: Based on data from Statistics Canada.

Many factors influence the servicing cost of each province's debt. General economic conditions when the debt is issued, such as the rate of growth of the economy, the rate of increase in prices, and expected inflation, affect the yield requested by investors. In addition, some provincial debt managers believe that the level of debt outstanding and the amount of new issues have a direct impact on the yield required by the market; others are more sanguine. Both are probably right. A study of the determinants of the cost of provincial debt covering the 1960-82 period indicated that in some cases the level of debt outstanding did not have much impact on the interest rates that provincial governments had to pay, while in other cases it did.[11] Other factors specific to a province may also affect its borrowing capability.

For example, the yield on Ontario's direct and guaranteed debt appears to be essentially determined by the yield on federal debt, to which a small risk premium is attached. No other specific factors unique to Ontario contribute to the determination of the cost of Ontario bonds. Thus it seems that Ontario debt is a very close substitute for federal debt, although if the province embarked heavily in debt financing, it could face higher borrowing costs.

For the province of Quebec the situation is somewhat different. Although the yield on federal debt remains an important determining factor, the ratio of Quebec debt outstanding to the province's gross domestic product – a factor representing investor confidence – contributes significantly to the determination of the yield requested by investors to hold Quebec bonds. An increase in the amount of Quebec debt outstanding would raise the cost of borrowing by the province, but other economic and political factors are also significant.[12]

The difference between the two provinces may be attributable to the fact that Ontario has pursued a somewhat more cautious approach to financing, generally borrowing almost exclusively to fund capital budget deficits. By contrast, Quebec has borrowed extensively to finance many programs, and this has influenced investors' perceptions of the quality of Quebec securities.

In British Columbia the amount of debt outstanding in relation to the size of the economy is relatively small, and it does not significantly affect the interest rate that the province must pay on provincial bond issues. The only variable significantly affecting the cost of B.C. bonds is the yield on Ontario or federal bonds, for which they are a close substitute. New Brunswick is more like Quebec; its stock of debt outstanding in relation to GDP is rather large, and the ratio of debt to GDP is a significant determinant of the yield on that province's bonds.

What does all this mean? Apparently investors have conceptually set up different risk categories. As long as a province stays within a risk category it can issue more debt without an increase in its risk premium. As a province moves from one risk category to a higher one – when, for instance, its ratio of debt to GDP passes a certain threshold – the yield it has to pay on its securities increases in relation to the general level of interest rates or to the cost of federal debt.

These factors are taken into consideration in determining each province's credit rating. This is the mark given to a province and more generally to a borrowing entity by a specialized agency – Moody's or Standard and Poors, in the United States; Canadian Bond Rating Service or Dominion Bond Rating Service, in Canada – that assesses the risk of the security issued and particularly the risk of default. The credit rating reflects the ability of the borrower to repay the debt. Factors taken into consideration in

establishing the credit rating relate to the financial management of the province, the state of the economy, the tax base of the province, the vulnerability of the province to large swings in economic activity, and the diversification of the economic base of the province.

There is some debate about the importance of the credit rating for access to financial markets, particularly as it relates to the cost of borrowing. Its importance is generally recognized in the Canadian, the U.S., and Eurodollar markets. In the past it used to be less important for the European and Japanese markets, but this is changing nowadays. If a province has only minimal needs, they may be quite easily met irrespective of the credit rating. Nevertheless, that rating will influence the public's perception of the quality of the province's bonds. Some analysts also maintain that credit ratings only reflect the attitude of the market towards the borrower being rated and that consequently those ratings do not directly influence financial markets.

Whatever the relationship between markets and credit ratings, it remains that debt managers, particularly at the provincial level, believe in the importance of credit ratings and try to maintain, if not to increase, the rating of their province. This means that when preparing a provincial budget an eye will be kept on the possible reaction of Moody's or of Standard and Poors to an increased deficit or to increased provincial expenditures. Indeed, in recent years some credit agencies have downgraded the bonds of some provinces that have been in a deficit position.

Market Accessibility and Debt Management

Concern about market accessibility has been a fact of life for many provinces over the years. Markets are not the only sources of funds. "Off-market" sources, such as the Canada Pension Plan, the Quebec Caisse de Dépot et Placement, and various provincial funds, fulfil 40 per cent of provincial cash requirements. But markets constitute the supplementary or marginal source of funds, and they limit a government's ability to raise funds. Several provinces encountered some resistance to their bond issues when they incurred large deficits in recessionary periods, such as in 1969 and again in the early 1980s when provinces had to compete with the federal government for funds.

Accessibility to financial markets is crucial to allow flexibility in fiscal management, particularly at the provincial level, and provinces have devised different strategies to ensure good reception of their issues. Some try to build sufficient internal liquidity so they can afford the luxury of tapping financial markets only under favourable conditions. For them, recourse to financial markets is sporadic, and several years may elapse between bond issues. These provinces were thus successful in avoiding the impact of the high interest rates in the 1979-82 period. One drawback of their good fortune is that if they choose to stay out of financial markets for a few years, they may have to re-establish their credit rating and refamiliarize potential investors when the need to float an issue arises. This is one reason why other provinces have opted for a continuous presence in both domestic and foreign financial markets. Becoming a familiar name is considered an advantage by many debt managers in the quest for access to financial markets. Maintaining a continuous presence in several financial markets could, however, be a difficult task for a smaller province with relatively small cash requirements. Prince Edward Island, whose yearly borrowing needs rarely exceed $50 million, is a prime example; though, on the other hand, because of its small needs, such a presence may not be needed.

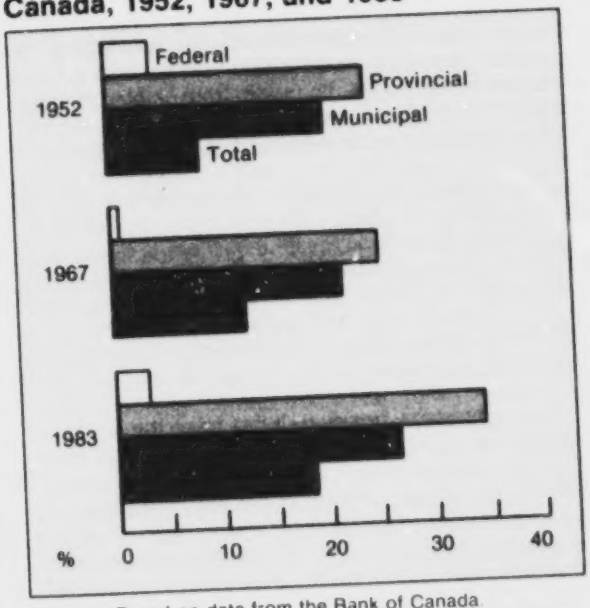
For all levels of government combined, foreign borrowing represented approximately 20 per cent of total borrowing in 1982. Of this, most was provincial, although the federal government has been borrowing somewhat more abroad of late. Nonetheless it borrows abroad mainly to replenish the foreign exchange fund in an effort to prop up or to stabilize the Canadian dollar on foreign exchange markets. For all of its other needs, it generally borrows on domestic markets.[13]

Provincial and municipal governments have made extensive use of foreign markets to meet their cash requirements. In 1952, 24 per cent of provincial government debt outstanding and 20 per cent of municipal debt outstanding was denominated in foreign currency (Chart 3-9). This proportion increased substantially in the late 1970s, and in 1982 the proportion of total provincial and municipal debt outstanding denominated in foreign currency was 35 and 26 per cent, respectively. That year, provincial debt outstanding in Canadian dollars amounted to $73 billion; debt denominated in U.S. dollars amounted to $25 billion; and that in other currencies, to almost $14 billion.

By mid-1983 the direct and guaranteed debt of provincial governments was denominated in 12 different currencies (counting the Canadian, Euro-Canadian dollars, the Euro-U.S., the U.S., and optional U.S. dollars as different currencies). All provinces had debt outstanding labelled in Canadian and U.S. dollars. Eurodollar loans, Swiss francs, and German marks were also favoured. Quebec had direct and guaranteed debt denominated in 11 different currencies. Newfoundland, Nova Scotia, Ontario, and Manitoba had debt outstanding in six

Chart 3-9

Foreign Debt as a Proportion of Total Debt, by Level of Government, Canada, 1952, 1967, and 1983



SOURCE Based on data from the Bank of Canada

different currencies, Prince Edward Island had only Canadian- and U.S.-dollar liabilities.[14]

Interest rate differentials are the driving force behind foreign borrowing. For instance, in 1983, Quebec was able to secure the equivalent of $59 million (Cdn.) in Swiss francs at 5-5/8 per cent, while Hydro Quebec obtained a similar amount at 5.5 per cent. New Brunswick and Newfoundland contracted similar loans at 5.75 per cent, while Manitoba borrowed German marks at 7-3/8 per cent; two loans in Japanese yen were at 8.7 and 8.1 per cent, respectively. The interest rates for equivalent borrowing on domestic markets would have been anywhere between 10.5 per cent for the shorter maturities to more than 12 per cent for longer notes. Interest rate spreads were even higher in 1980 and 1981. Provinces may also tap foreign markets when they doubt the availability of funds in Canada – that is, when they think they cannot obtain the desired maturity dates, when domestic markets are flooded with issues from other governments or corporations, or when they reckon they would have to pay a higher risk premium domestically.

By borrowing abroad, provinces are able to lower their interest costs, but they also subject themselves to foreign exchange risks. If the value of the currency in which the loan is denominated, and in which the repayment has to be made, moves up in relation to the value of the Canadian dollar, the outstanding provincial liability increases in Canadian dollars. And the cost of liberating that debt rises. Alternatively, if the value of the currency in which the repayment has to be made declines, the Canadian value of the foreign liability also falls, thus reducing the overall cost of the foreign loan. Certain currencies have been rather stable over the past two decades; others, however, have registered strong swings, particularly in recent years. Some provinces have registered heavy losses on specific transactions, particularly those undertaken in German marks. Provincial debt managers note, however, that the swings have not been that important over the longer run, particularly if a province keeps a well-diversified portfolio. Moreover, the added cost incurred on repayment of the debt is sometimes offset by a gain upon conversion of the foreign loan into Canadian dollars.

Many provincial debt managers consider that the operation averages out over time. Some provinces protect themselves against foreign exchange risk by having an active sinking fund partially invested in U.S. pay bonds. Some manage their foreign debt by paying close attention to the fluctuations of various currencies and even entering into currency swaps. Overall, currency fluctuations may make foreign borrowing quite expensive and wipe out any gain related to lower interest rates. The future relative movements of currencies are difficult, if not impossible, to forecast. Most provincial borrowers therefore attempt to limit the proportion of foreign debt in their total borrowing to approximately 25 per cent. A recent analysis of several Quebec foreign loans concludes that provincial debt managers acted rationally, given the information available at the time of issue.[15]

The Choice between Deficit and Tax Finance

The decision whether to finance expenditures through deficits or taxes is integrated into the budgetary process more at the provincial level than at the federal level. Seven out of ten provinces separate their main budget into an operating and a capital investment budget. Many provinces have attempted, as a guiding rule, to balance their operating budgets and to limit borrowing to the funding of capital expenditures. For most, however, the severity of the recent recession made this objective much more difficult to achieve because, to balance the current expenditure budget, they would have either had to increase taxes or reduce current expenditures.

Some provinces, albeit the minority, have moved away from strict enforcement of that rule even in the long run. The argument that the definition of capital should be extended to include human as well as physical capital is gaining some ground, although the more "traditional" provincial debt managers argue that a province may not reap the benefit of investment in human capital because of interprovincial migrations and that investment in human capital is therefore not an operative concept. At one extreme, some provinces take a social approach to development, viewing spending on health and education, for instance, as an investment in the future. At the other extreme, focus is on economic growth, which may call for limitations on governmental activities. Overall, most of Canada's provincial governments have adopted a middle-of-the-road approach, recognizing the need to reduce the deficit but also stressing the importance of not cutting into the various social programs.

In summary, growing deficits and rising levels of debt have impinged upon the financial capacity of provincial governments to manage their debt. While some provinces are in worse shape than others, all provinces have a higher ratio of debt charges to GDP than the federal government but a slightly lower ratio of debt charges to current revenues. And although they draw from a smaller economic base, the provinces have so far been able to avoid major financial problems through astute debt management, and they generally appear to be addressing their financial position. The fact that the level of debt is an important consideration of budgetary management has definitely helped. So have the pressures from credit-rating agencies and the absence of recourse to the Bank of Canada.

Debt Management, Crowding-Out, and Interest Rates

Many believe that government deficits and debt management have an impact on interest rates and indirectly on the general level of economic activity. Indeed, economists and debt managers have long and heatedly debated the impact of government borrowing on interest rates, particularly the impact of changing the maturity structure of government debt outstanding. But no matter which economic approach one subscribes to, the impact of the structure of the public debt on yields ultimately depends on the substitutability between different types of securities and between different maturities. The question boils down to the effect of a change in the yield on government securities on the yield on equity or private bonds.

Research done in the United States suggests that the maturity composition of the federal debt does affect the yields of securities. The results generally indicate that lengthening the average term to maturity of the federal debt reduces the incentive for both bond and equity corporate financing and vice versa. There is also evidence that a policy of shortening the term of the government debt would change the pattern of corporate financing from short- to long-term borrowing, and this could change the composition of output towards increased capital formation.

The evidence for Canada is sketchy and somewhat contradictory. A study undertaken for the Economic Council of Canada suggests that there is a very high degree of substitutability among various instruments, particularly between short- and long-term government securities and that consequently a change in the maturity structure of government debt may not have a sizable impact.[16]

In recent years, however, it has been the impact of deficits on the general level of interest rates rather than on relative yields that has been the greatest source of concern. Attention has focused on crowding-out issues. Technically, "crowding-out" is the displacement of private expenditures by bond-financed government expenditures.[17]

Crowding-out may result from different mechanisms. Direct crowding-out occurs when changes in government spending are offset by corresponding opposite changes in the private sector. A prime example occurred when government took over the running of hospitals, to a large extent replacing private ventures.[18] Direct crowding-out is the result of government spending or of government presence in the economy and is not related to government deficits or public debt issues. By contrast, indirect crowding-out results from the government's choice of instruments to finance expenditures and is the result of the substitution of public for private economic activity that comes out of the workings of the whole economy. One example of indirect crowding-out, and more precisely of financial crowding-out, is a cutback in private spending induced by increases in prices and interest rates in a closed economy, and in the exchange rate in an open one, resulting from an increase in government deficits or in public debt outstanding.[19]

Many believe that financial crowding-out does not take place in an open economy because of the fluidity of international capital movements. Canadians can resort to foreign borrowing when their needs cannot be satisfied on domestic markets. Growing deficits, combined with increasing private sector demands, may lead to sizable foreign borrowing,

however, and the stock of Canadian debt held in foreign portfolios could then become large. This would push up the cost of borrowing abroad, because a higher "risk" factor would be attached to Canadian issues as foreign portfolios became saturated. Canada was an important borrower on international financial markets in 1982, with new borrowing of U.S. dollars amounting to close to $16 billion – second only to the United States, which borrowed $21 billion.[20] In 1983, Canada ranked third, with more than $8 billion in new borrowing, compared with $20 billion for the United States and $14 billion for Japan. In 1981, Canada's international bond issues exceeded those of any other country. The importance of foreign borrowing comes as no surprise, given Canada's open economy and its reliance on foreign trade.

On the other hand, crowding-out could still occur under a flexible exchange rate system, since an inflow of foreign capital would lead to an increase in the value of the Canadian dollar relative to that of other currencies. In that case the level of private sector activity would be negatively affected by an appreciation of the value of the currency in an open economy. But foreign exchange crowding-out may not occur if the Bank of Canada maintains a stipulated exchange rate as opposed to monetary targets. The upward pressures on the exchange rate would then lead to an increase in the money supply, and the deficits would have been monetized. Foreign exchange crowding-out would have been traded off for renewed inflationary pressure.

Domestically, governments took the lion's share of new issues in the early 1980s. The federal and provincial governments accounted for 46 and 41 per cent of net new bond issues to the public in 1980 and for 38 and 57 per cent in 1982, respectively. Corporate issues accounted for only 9.5 and 1.2 per cent of the total in those two years – a significant drop from their 42 and 40 per cent shares in 1970 and 1974. This is a source of concern for many economists and businessmen.

Benjamin Friedman, a U.S. economist, showed that, at least for the United States, the ratio of total public and private debt outstanding to GNE remained stable over long periods of time. Consequently, sustained movement in the ratio of government debt to GNE implies an offsetting movement in the aggregate debt ratio of the private sector. In the absence of a major change in financing patterns, therefore, the ability of the economy to achieve greater capital intensity – that is, to increase its capital stock in relation to total output – depends at least in part on the ability of the private sector to increase its debt in relation to GNE. In the end, the rise or fall of the government debt ratio is therefore likely to be an important factor in the relationship between growth of the capital stock and growth of the economy's total output.

In Canada, the ratio of total debt outstanding to GNE rose slowly from more than 136 per cent in 1952 to about 161 per cent in 1982. The rising trend is somewhat more pronounced here than in the United States, probably because of an increase in the capital intensity of the Canadian economy over the last 30 years. The pattern of movement of the federal debt component is similar to that experienced in the United States, declining from 1950 until the mid-1970s and then increasing. But does this indicate that the federal government, together with provincial governments, crowded out the private sector from financial markets in recent years? Or did they only move into an area vacated by corporations suffering from the recession? Furthermore, accepted finance theory states that capital formation should be financed through long-term funds, which include debt as well as equity. If such crowding-out pushes more corporations into equity financing, would that not be welcome, given the recent deterioration in their equity base?

Evidence of financial crowding-out depends on the link between interest rates and deficits. In Canada the results of a study conducted for the Economic Council of Canada suggest that the federal deficit and the public debt do not significantly affect short-term interest rates, assuming monetary policy is directed towards domestic objectives. Some very small impact is evident when the Bank of Canada acts to keep the exchange rate between the U.S. and Canadian dollars relatively stable, however, and sets the level of short-term Canadian rates in relation to U.S. rates.

But crowding-out is generally more evident in the longer-term bond market. There, government securities would be most likely to come into conflict with private credit demands. But there is little empirical evidence that Canadian government deficits or that an increase in Canadian public debt outstanding have contributed to increased long-term interest rates in Canada. Canadian short-term interest rates, U.S. long-term rates, and domestic inflation appear to be the main determinants of Canadian long-term rates. Government deficits and total government debt do not appear to have a significant influence on the level of long-term rates.

By contrast, the U.S. federal deficit affects the yield on government bonds and on the U.S. long-term corporate rate. Since changes in U.S. long-term interest rates have an almost one-for-one impact on

Canadian rates under current monetary policy, the estimated effect on Canadian long-term interest rates of an increase in the U.S. deficit would be roughly the same as its impact in the United States.

Before we can conclude whether financial crowding-out does or does not occur in Canada, we must look at the ultimate impact of public indebtedness on investment, because crowding-out implies a displacement of private spending. Small econometric models and large-scale structural models, such as the Council's CANDIDE model and the Bank of Canada's RDX2, show no evidence of investment crowding-out from government deficits in Canada, but some in the United States. A special set of simulations executed by Wharton Econometrics for the Economic Council of Canada shows that a once-and-for-all increase of $32 billion in the U.S. deficit – or an increase equivalent to 1 per cent of U.S. gross national expenditure – raises the Moody's corporate bond rate by 38 basis points in the second and third year, while a permanent increase in the deficit of the same amount brings about an increase of 59 basis in the U.S. corporate bond rate in the second year and an increase of 102 basis points in the fifth year. This, in turn, affects U.S. investment, consumer expenditures, and GNE.

The U.S. interest rates, as well as a number of other U.S. economic variables, influence Canadian economic developments. By linking the CANDIDE and the Wharton econometric models, we can follow through the impact on the Canadian economy of a 1 per cent increase in the ratio of the U.S. deficit to GNE.

A permanent increase in the U.S. deficit of 1 per cent of GNE – that is, an increase maintained in subsequent years – would bring about an increase of 34 basis points in the Canadian industrial bond yield in the first year, 101 basis points in the fourth year, and 109 points in the fifth year (Table 3-1).[21] Government yields are also affected but to a lesser extent. Conventional mortgages follow a similar pattern, with an increase of 33 basis points in the third year and 100 points in the fifth. In the projection, total gross fixed capital formation declines in real terms by 1.6 and 2.3 per cent in the fourth and fifth years, respectively; business spending on machinery and equipment, by 2.3 and 3.1 per cent; and nonresidential construction, by 1.9 and 3.1 per cent. Residential construction is also affected but to a much smaller extent. Our conclusion is that increases in the U.S. government federal deficit contribute to higher interest rates and to lower real gross fixed capital formation in Canada. There is, therefore, a crowding-out effect in Canada from the U.S. deficit, though none was noticeable following an increase in Canadian deficits.

An increase both in the deficit and in government spending could have a crowding-out effect. To isolate the crowding-out exclusively attributable to the kind of financing used for government expenditures, we ran a second set of simulations, where an increase in

Table 3-1

Impact on Selected Economic Variables of a Permanent Increase in the U.S. Deficit Equivalent to 1 Per Cent of GNE: Variations from the Base Case

	Years				
	1	2	3	4	5
	(Percentage points)				
Interest rates:					
U.S. commercial paper	0.96	0.85	0.83	1.00	1.07
U.S. industrial bond	0.28	0.59	0.81	0.96	1.02
Canada long-term government bond yield	0.30	0.50	0.63	0.81	0.88
Canadian industrial bond rate	0.34	0.64	0.84	1.01	1.09
Canada's mortgage rate	0.33	0.56	0.71	0.92	1.00
	(Per cent)				
Real investment in Canada:					
Business gross fixed capital formation	0.1	-0.1	-0.8	-1.6	-2.3
Business spending on machinery and equipment	0.3	-0.3	-1.4	-2.3	-3.1
Nonresidential construction	0.1	-	-0.8	-1.9	-3.1
Residential construction	-	-0.3	-0.3	-0.3	-0.1

SOURCE Economic Council of Canada, CANDIDE Model 2.0.

government expenditures of 1 per cent of U.S. gross national expenditure was matched by a corresponding increase in government revenues. From that exercise we can infer that about half of the crowding-out effect of U.S. deficit spending is attributable to debt financing and not to the increase in government spending.

In summary, Canadian deficits do not appear, at current debt levels, to have resulted in financial crowding-out, in contrast to what happened in the United States. And if crowding-out does occur in Canada, it is probably imported from the United States in the context of a monetary policy that sets Canadian interest rates in relation to U.S. rates.

Admittedly, the results of these simulations should be regarded with caution. They are based on individual and institutional financial interrelationships developed since the Second World War, when Canada had no experience with federal deficits of such magnitude as in 1983-84. And although there are apparently no significant signs of crowding-out in Canada directly attributable to the level of federal debt currently outstanding, this could change if large deficits persisted and the amount of public debt outstanding continued to rise at a fast rate.

Should We Worry about Deficits?

We have documented that persistent budgetary deficits and rising public debt outstanding have restricted the fiscal options available to governments, particularly at the federal level. The capacity to embark on new expenditure programs has somewhat deteriorated. Public debt management has been rendered more difficult – or "less routine." Officials, particularly at the federal level, have been forced to abandon many of the secondary objectives of debt management, such as improving the efficiency of capital markets or achieving a balanced maturity structure, to concentrate on "getting the money wherever and however they can." The term to maturity of the debt has been shortened. Provincial governments have at times been forced to borrow more abroad than they would have otherwise. And the decline of the Canadian dollar is increasing the burden of foreign debt. Moreover, debt financing is increasing while spending on capital formation is declining in relative importance.

Of particular concern is the upward pressure exerted by debt services on total government spending and on the government fiscal stance. Already, the ratio of debt charges to total expenditures is high – around 20 per cent for the federal government.[22] There is, of course, the danger that growing debt charges could lead to self-sustaining deficits. To avoid such a situation, it is important that the level of public debt outstanding stabilize in relation to GNE.

There is no given optimum or maximum level for the ratio of public debt to GNE, as there is no optimal split between equity and debt for businesses. But just as the increase in business leverage may increase risks by reducing corporate capability to manoeuvre through hard times, so governments that rely more and more on borrowing to fund their expenditures may find their fiscal situation increasingly untenable. Thus it is important to try to determine an acceptable level of debt.[23]

An acceptable debt-to-GNE ratio cannot be derived without considering the factors that govern the capacity of a government to assume the service of its debt, such as the ratios of debt charges to expenditures and of debt charges to revenues. These factors, and thus the affordable GNE ratio, depend on the general economic environment, and particularly on the level of interest rates. For instance, according to the CANDIDE base case, a 53 per cent debt-to-GNE ratio by 1990 would result in a ratio of debt charges to total expenditures of about 25 per cent and a ratio of debt charges to federal revenues of about 31 per cent. With the same interest rate projections as those of the base case and taking into account only first-round effects, a debt-to-GNE ratio of 60 per cent by 1990 would oblige Canadians to forfeit about 50 cents of each tax dollar to service the public debt. At a 65 per cent ratio, about 40 per cent of total expenditures and two-thirds of tax revenues would be devoted to the payment of debt charges. It also appears that as the debt-to-GNE ratio nears 65 per cent, the situation tends to become somewhat explosive, as the newly issued debt is insufficient to cover the new debt charges. The CANDIDE pessimistic scenario brings us close to such a situation.

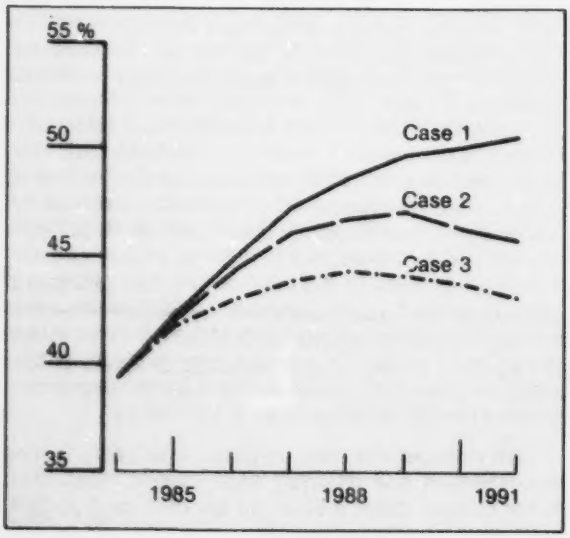
This exercise assumes no policy changes affecting tax revenues and relatively high interest rates. With lower interest rates, a 60 or 65 per cent debt-to-GNE ratio would become much more manageable, as was the case in the 1950s and 1960s.

Whatever the "affordable" debt level might be, it is crucial that the ratio of debt to GNE not be allowed to escalate continuously. At the federal level, for the ratio to stabilize or to diminish, the rate of escalation of public debt servicing costs should be lower than the growth rate of the economy – or the real rate on government bonds must be lower than the rate of increase of real GNE – everything else being equal. If the current high level of interest rates and lacklustre economic growth persist, and if there is no change in the configuration of spending and taxes, there is a definite danger that the federal debt-to-GNE ratio will not be contained.

Various fiscal strategies and economic scenarios could lead to stabilization of the debt-to-GNE ratio. For instance, if the annual growth of nominal GNE in Canada averaged 9 per cent (5 per cent inflation, 4 per cent real growth), if federal revenues grew at 10 per cent and the annual growth of total expenditures was held at 8 per cent, and if we assume that the nominal interest rate paid by the federal government over the next seven years will be 11 per cent per annum, debt outstanding would rise to almost $400 billion by 1991 – or close to $15,000 per person – but it would stabilize in 1990 at a ratio of about 50 per cent of GNE. Under different assumptions, the ratio of federal debt to GNE could peak faster and at a lower level. Under slower growth or higher interest rate assumptions, this ratio would level off later and at a much higher level (Chart 3-10).[24]

Chart 3-10

Federal Debt Outstanding as a Proportion of GNE under Three Different Assumptions,[1] Canada, 1984-91



1 See note 24 to Chapter 3, at the end of this Review.
SOURCE Calculations by the Economic Council of Canada, based on data from Statistics Canada.

Up until now, neither the federal nor the provincial deficits appear to have caused irreparable damage to the Canadian economy. There is probably some further room to manoeuvre. Private investment initiative in Canada has been wanting, and with continued high personal savings rates, public debt could probably grow some more relative to GNE without seriously impinging upon Canada's financial credibility. But deficit financing, like inflation, can spiral. And although some deficits may not be harmful if remedial adjustments are subsequently made, an ever-rising excess of expenditures over revenues will surely lead to a loss of control over government finances. There is also a limit to public tolerance of the increasing share of revenue that must be devoted to servicing the public debt.

So fiscal responsibility is needed. Canadians cannot count solely on the improved performance of the economy to bring the potential problem of growth in debt and deficits under control. In our base case, the federal deficit as a percentage of GNE is projected to decline only gradually and slightly, from 6.4 per cent in 1984 to 4.8 per cent in 1990. Various alternative scenarios, with differing strength in the world recovery or in the level of saving and investment, will only lower the public debt slightly. To make a large and sizable dent in the deficit, federal tax increases, restraint on expenditures, or both, will be needed.

Already, most provincial governments, which to some extent were in worse shape than the federal government because of the smaller size of their economic base, have taken measures to redress their financial position, despite somewhat inopportune economic conditions. Because of its economic stabilization responsibilities, the federal government's task has been more complex. But sooner or later the federal government will have to take action to reduce the current deficit and make the difficult choice between reducing the growth of expenditures or raising taxes.

4 The Business and International Debt Situation

The huge debt that hangs over the Canadian economy as it recovers from a recession unparalleled since the 1930s is not limited to the federal and provincial governments. The dramatic increase in the indebtedness of firms is an equally important determinant of our national economic outlook. And with the growing internationalization of the Canadian banking system, large outstanding loans by the banks to some less developed countries are having a negative impact on their earnings and could even, under unfavourable circumstances, hamper the expansion of their capital base.

Indebtedness can be costly for society. It can lead to bankruptcy – for firms at least – throwing workers out of jobs and sometimes robbing whole communities of their livelihood. But well short of such an eventuality, the effects of retrenchment and austerity that so often follow an excessive resort to borrowing usually lead to the diversion to debt repayment of resources that might otherwise be invested in new plant and equipment or directed to other uses more likely to yield social benefits. That is as true of corporations as it is of government. For creditors with vulnerable loans, the problem is that their funds are tied up in unproductive endeavours rather than in new wealth-creating pursuits.

Business Debt

In recent years, the plight of many corporations and of their creditors has captured much attention. Massey Ferguson, Chrysler, Maislin, Dome Petroleum, and some smaller corporations were overextended and had to seek government help. In fact, in 1981, just before the start of the most severe recession since the Great Depression, many Canadian corporations carried a heavy debt load. For instance, one small incorporated business in five had more debt than assets. The high indebtedness of firms was the result of a long-term trend towards higher debt-to-asset ratios combined with a poorly performing economy. Both have put the corporate sector in a rather fragile position.

The Growing Indebtedness of Canadian Corporations

From 1977 to 1982, average debt-to-asset ratios – or leverage – for large firms rose some 5 percentage points. The rise in mining of about 16 percentage points was particularly severe, while in manufacturing and in other industries the ratio rose more moderately (Table 4-1). By the end of 1983 these ratios had declined somewhat, as firms embarked on a program to restructure their balance sheets.

Table 4-1

Debt-to-Asset Ratios[1] of Industrial Corporations,[2] by Major Industry Group, Canada, Selected Years, 1962-83

	1962	1967	1972	1977	1982	1983
				(Per cent)		
Mining	22.2	22.5	27.9	30.5	46.4	43.5
Manufacturing	33.8	37.3	38.1	40.3	43.6	42.9
Other industries	47.9	49.6	50.1	51.8	54.7	53.3

1 Debt excludes loans from affiliated companies, shareholders, and directors, as well as deferred taxes.
2 Data cover all corporations in 1962 and 1967; corporations with assets of $5 million or more in 1972; and those with assets of $10 million or more in 1977, 1982, and 1983.
SOURCE Based on data from Statistics Canada.

The rise in indebtedness has not been limited to the larger corporations and is not a recent phenomenon. The average debt-to-asset ratio for all firms has fluctuated along a rising trend over the past 20 years.[1] Although there were some differences between major sectors, the increase in leverage was fairly general. And the leverage levels would have been even higher had the growing number of intercorporate loans been included in the debt figure; instead, loans from affiliated companies and shareholders are considered here as part of equity.[2] Moreover, our analysis shows that an independent business – that is, a firm that does not have significant financial ties to other companies – is, on average, more highly levered than a subsidiary of another company or a member of a franchise or conglomerate.[3] Similarly, foreign-controlled corporations have, on average, a stronger equity base than Canadian-controlled businesses, and the increase in their leverage has been much less dramatic.[4]

There is considerable variation in both the average debt-to-asset ratios and the pattern of change in

those ratios among firms of different sizes.[5] The smallest firms, with assets of less than $250,000, have debt-to-asset ratios that are, on average, almost 50 per cent higher than those of the largest firms, with assets of over $25 million. As firm size increases, debt-to-asset ratios decline, so that firms with 5 to 10 million dollars in assets have ratios some 35 per cent higher than the largest firms. The ratio is markedly lower for firms with assets of over $10 million.

Between 1975 and 1981 the average debt-to-asset ratio increased for all size classes of firms. For medium-sized firms, with assets of between 1 and 25 million dollars, the ratio generally increased each year. For the largest firms there were small ups and downs until 1980 and then a large jump in 1981. For smaller firms, the pattern was rather erratic, particularly for corporations with assets of between $250,000 and $1 million. Overall, the pattern shows fluctuations along a rising trend, with greater year-to-year variation for smaller firms.

Serious as the increase in average debt-to-asset ratios may appear, the use of average data hides the diversity among firms and masks many of the problems that are particularly important for policy purposes. Even within a specific size class or within an industry group, the distribution of debt is not uniform, and a few firms with extreme debt-to-asset ratios may distort the "average." But more important, "averages" may prevent the identification of corporations with problems.[6] The "average firm" is not the object of most concern; instead, it is the firms with high debt-to-asset ratios and low rates of return that may get into difficulty and require government assistance. For instance, in 1981 almost one in five small independent firms had more debt than assets or "negative equity." The proportion falls to one in twenty in the next size class of firms. In the machinery and electrical sectors, one-quarter of a sample of small independent firms had negative equity. In the retail trade sector, less than 10 per cent of a sample of independent corporations were in that situation.

Increases over time in the numbers of highly indebted firms are particularly disturbing. Despite the fact that average indebtedness decreased in some size classes, there has been a marked increase in the number of firms with a high level of indebtedness. The number of firms, in all size classes, with debt-to-asset ratios greater than 77 per cent and the number of those with negative equity rose significantly between 1977 and 1981 (Table 4-2).

The greater relative indebtedness of small firms has been well documented, as has the general upward trend in leverage.[7] Recent data reveal that the increase in the number of firms with a heavy debt load has been relatively more pronounced among medium-sized businesses, so that a significant proportion of medium-sized firms have joined the ranks of many small enterprises in having large amounts of debt. This is not to say that small businesses have fared better in recent years. For many of these already very highly leveraged firms, a worsening of their situation has meant bankruptcy – and thus a disappearance from the data base.

Table 4-2

Proportion of Independent Corporations in the Primary and Secondary Sectors with Debt-to-Asset Ratios Greater than 77 Per Cent, by Size of Assets, Canada, 1975-81

	Assets					
	$249,999 or less	$250,000 to $999,999	$1,000,000 to $4,999,999	$5,000,000 to $9,999,999	$10,000,000 to $24,999,999	$25,000,000 and over
	(Per cent)					
1975	33.1	18.9	17.9	15.6	7.3	10.0
1976	31.3	20.0	20.2	14.1	9.4	7.6
1977	27.1	21.4	19.4	16.3	11.0	8.7
1978	34.9	24.9	21.6	16.1	13.6	11.6
1979	29.3	22.8	21.7	16.0	17.8	9.7
1980	32.8	25.3	21.4	19.3	19.2	12.8
1981	36.1	23.0	23.3	26.7	20.6	14.4

SOURCE Estimates by the Economic Council of Canada, based on data from Statistics Canada.

Why Has Leverage Increased?

The increased level of indebtedness is the outcome of the interplay of market forces. Economic conditions, stock market performance, inflation coupled with tax factors, and interest rates are among the variables that influence the choice between debt or equity financing for all businesses. Other factors apply more specifically to certain categories of firms.

Stock market performance is an important factor in the decision to issue new equity, particularly for larger firms. Research done in the United States and elsewhere indicates that firms prefer to issue new equity after a period of strong stock market performance.[8] A fairly strong relationship can be established between the stock market performance, as measured by the TSE 300 index and new issues of common stocks. Throughout the 1970s the performance of the stock market was rather dull, with the gains in the TSE 300 index having been barely equal to the rate of inflation, resulting in a lack of enthusiasm towards new equity issues.

A higher rate of inflation, particularly in conjunction with our taxation system, also rendered borrowing more desirable. A high inflation rate is accompanied by high nominal interest rates. As interest payments are deductible from taxable income and the opportunity cost of equity capital is not, there is an incentive to go the borrowing route. Second, the inflationary component of the nominal interest rate is in effect a repayment of real capital, so that with higher inflation a larger portion of capital can be repaid out of before-tax income, thereby making debt more attractive than new equity financing. Expectations of continued inflation create expectations of increasing asset values in nominal terms and thus of a possible future reduction in leverage. In such circumstances increased leverage is seen as a transitory phenomenon, which they expect to be able to deal with later on.

The low level of real interest rates in the 1970s, as nominal rates adjusted slowly to rising inflation, was another incentive towards debt rather than equity finance. With low real interest rates in the mid- and late 1970s, corporate borrowers found it more advantageous to finance new investment with borrowed funds, thereby increasing their rate of return on existing equity.[9]

Interest rate volatility, whether linked to rapidly changing rates of inflation or to foreign factors, provides an incentive to finance by increasing short-term liabilities. When it becomes difficult to project accurately the future course of interest rates, both lenders and borrowers will want to call upon short-term instruments. In the post-1977 period, with inflation and interest rates fluctuating along an upward trend, even traditional long-term lenders, such as trust and life insurance companies, favoured short-term instruments.

Much of the new business debt acquired during that period was in the form of bank loans, which tend to have a shorter maturity than bond or debenture financing. There was little activity in the long-term bond and debenture markets, as institutional and other investors turned increasingly to short-term instruments.

At the same time, the banking system was becoming more competitive and was reaching out into new lines of business, both domestically and abroad. New instruments were developed by banks to gather funds, and new ways of supplying funds to corporations were also introduced. Of particular importance for business were the new floating-rate lines of credit, term loans, and project loans designed to meet the specific needs of firms.

The increase in bank lending from $31.3 billion in 1977 to $55.4 billion in 1980 contributed to an increase in the proportion of debt outstanding in short-term form. In fact, the increase in the debt-to-asset ratios over that period came about through a much greater increase in short-term, as opposed to long-term, debt (Chart 4-1).

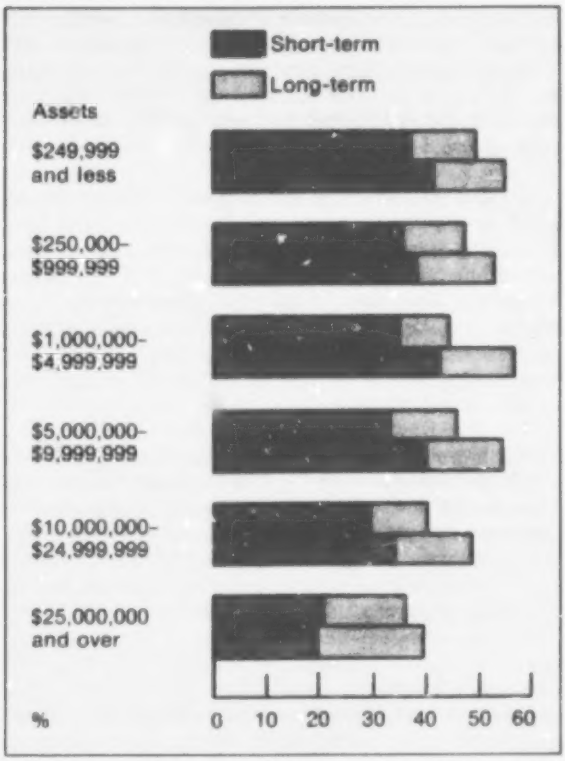
A long-term decline in the rate of return was also conducive to greater recourse to debt financing.[10] In order to maintain a target rate of return on shareholders' equity, managers had to reduce the percentage of shareholders' equity in total financing, thus increasing debt.

As well, takeover activity contributed to higher debt-to-asset ratios, since much of it is financed by borrowing, even among well-established, stable firms. For example, when Canadian Pacific Enterprises, a subsidiary of Canadian Pacific Limited – at the time, Canada's largest private corporation – took over CIP Inc., its payment in January 1982 of $660 million was financed in part by a bank loan of $510 million. Such an arrangement was not atypical in the oil and gas industry. A major objective of the National Energy Program was to increase the amount of Canadian ownership in the industry, but the large number of takeovers by Canadian firms has led to rapidly increasing debt-to-asset ratios.

The most spectacular run-up of borrowing in the takeover race was by Dome Petroleum. The poor performance of the economy and the associated decline in energy demand, along with the softening of world energy prices and high interest rates, left Dome

Chart 4-1

Short- and Long-Term Corporate Debt as a Proportion of Total Assets, Canada, 1975 and 1981



SOURCE Estimates by the Economic Council of Canada, based on data from Statistics Canada

with a very large amount of debt in relation to the book value of its assets.

But Dome is not the only player in that game. Other Canadian-owned oil and gas companies have also responded to Canadianization incentives and experienced large increases in debt as the result of takeover activity. Much of the activity was financed by banks, whose loans to the petroleum industry increased from $333 million in 1970 to $5.7 billion in 1980 – a much higher rate of increase than in any other industry and more than three times the rate of increase in total industrial loans. Also, buyouts of firms or of operating divisions by individuals or groups with a very small amount of initial equity have raised industry average ratios. In fact, this activity has become so prevalent that a new term – "leveraged buyout" – has been coined to describe it.

Some factors apply more specifically to smaller firms and explain the higher leverage of small businesses. We have discussed them in a previous report, so we shall only quickly review them here.[11] Obstacles to equity financing may come from any of several factors – for example, from regulation; the practices of major financial institutions, which tend to favour stocks of large corporations; the high cost of equity issues; and the structure of the Canadian equity market, dominated by a few national broker-dealers. In many instances, these force small businesses to borrow when they need additional funds. Factors internal to the firm also militate against issuing new equity to outsiders. Owners of small businesses are often driven by the fear of losing control over their operations. For these firms, the only way to strengthen the equity base is to increase retained earnings either by reducing take-home pay for the owner-manager or by increasing profitability. Fluctuations in economic activity that reduce the profitability of firms can have a serious impact on the equity base. The poor performance of the economy in the late 1970s and early 1980s was no exception. For many small businesses (and medium-sized ones in more recent years), the recourse to debt finance may well have been viewed as a temporary measure, necessary to avoid diluting control. In an inflationary environment the determination to take this route may be reinforced by expectations of future inflation-related increases in assets. Indeed, small businesses compensate for their relatively lower equity base with higher short-term debt – definitely a temporary measure. In 1975 the proportion of total debt on the balance sheet of the smallest size class of firms was 14 percentage points higher than that of the largest size class. A difference of the same order existed with respect to short-term debt, while the relative importance of long-term debt remained unchanged across all size classes of firms.

The Burden of Corporate Debt

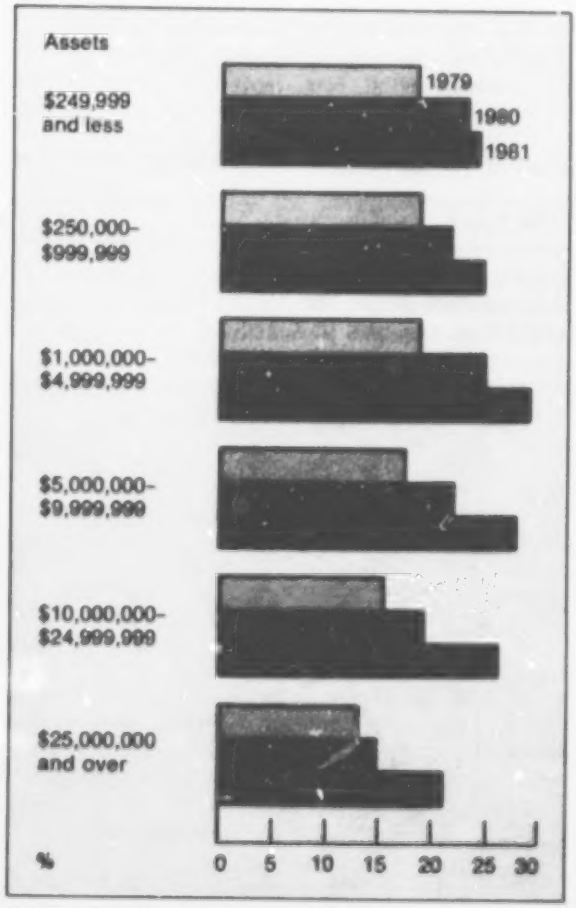
Is high corporate debt a problem? If it is, should it be of concern to the policy maker? The pertinence of these questions is enhanced by the fact that, in many cases, the higher leverage was not imposed by outside forces but, instead, was desired by owner-managers.

High leverage becomes a problem when firms cannot afford their debt. An indication of the burden of the debt is given by the proportion of operating income – net income before interest, taxes, and depreciation – that must be devoted to interest payments. This is the inverse of the interest coverage ratio commonly used in the financial community. The

share of interest payments in business income fluctuated along an upward trend in the 1970s and 1980s, and rose dramatically in 1981 and 1982, for all industry groups. In 1982, corporations on average devoted more than half of their income to interest payments. By 1983 the proportion had returned to 1981 levels, which were already at historical highs. The pattern of the increase in interest obligations varies across firm sizes, with the smallest and largest firms experiencing relatively moderate increases up to 1981, while firms with assets of 1 to 25 million dollars suffered the most severe rise (Chart 4-2). Although historically smaller firms have devoted a larger proportion of their income to debt charges than larger firms, the medium-sized firms have suffered the most severe deterioration in interest coverage in most recent years.

Chart 4-2

Interest Payments as a Proportion of Business Income, by Size of Assets, Canada, 1979-81



SOURCE Estimates by the Economic Council of Canada, based on data from Statistics Canada.

Moreover, as short-term debt increases as a percentage of total debt, a firm's interest payments become more responsive to swings in interest rates. The rise in the proportion of income devoted to interest payments from 1979 to 1981 can indeed be related to increases in interest rates throughout that period. Interest rates rose moderately in 1979, declined somewhat in early 1980, and then started on an accelerating upward trend until the middle of 1981. By 1982 the rates started to decline, but the very sharp drop in profits in 1982, associated with the recession, outweighed any gain from lower interest rates. The decline in the proportion of income devoted to interest payments in 1983 resulted from a combination of lower interest rates and higher profits.

Rates of return, or profitability, constitute the second major influence on the share of debt charges in income. Rising rates of interest may be more "affordable" if they are accompanied by increasing profitability. But debt may be a problem, even with declining interest rates, if profitability is dropping. Rates of return generally declined from 1975 to 1977, increased from 1977 to 1979, and dropped again from 1979 to 1981. This pattern is reflected in the change in the number of firms that experienced losses and in the number with high rates of return. For the smallest size class of businesses, which exhibits the widest dispersion in profitability, there was a significant decline in the number of firms with negative rates of return until 1979 and then a moderate increase up to 1981. At the other end of the scale, the percentage of firms with high profitability increased until 1979 and then declined until 1981. This evolution of profitability, together with movements in interest rates and indebtedness, explains the increase in the proportion of income swallowed up by interest payments.

Higher leverage and interest obligations increase financial risk. If not compensated by a decline in operating risk, bankruptcy can result. There were over 10,765 bankruptcies among businesses in Canada in 1982 and a further 10,260 in 1983 (Table 4-3). Compare these figures with the 6,595 bankruptcies in 1980 and 2,958 in 1975.

Bankruptcy is costly to the owner-manager of a firm – particularly the small businessman. Often he loses the enterprise he has built, as well as his livelihood. But bankruptcies also impose a high cost on society. Indeed, the large number of bankruptcies in the early 1980s brought hardship to many

Table 4-3

Number of Corporate Bankruptcies, by Industry, Canada, Selected Years, 1975-83

	1975	1980	1981	1982	1983
Primary sector	75	312	427	636	754
Manufacturing	246	532	681	1,007	946
Construction	483	1,301	1,404	1,661	1,565
Transportation and communications	270	431	551	766	696
Trade	1,267	2,120	2,560	3,283	3,026
Services	555	1,645	2,170	2,879	2,697
Finance, insurance, and real estate	62	254	262	533	574
Total	2,958	6,595	8,055	10,765	10,260

SOURCE Consumer and Corporate Affairs Canada, *Report of the Superintendent of Bankruptcies* and *Insolvency Bulletin*, Ottawa, various issues.

Canadian workers who, deprived of wages and pension rights, were forced to join the unemployment line or even welfare rolls. Furthermore, firms that went bankrupt during the 1982 recession are not around now to contribute to a strengthening of the recovery.

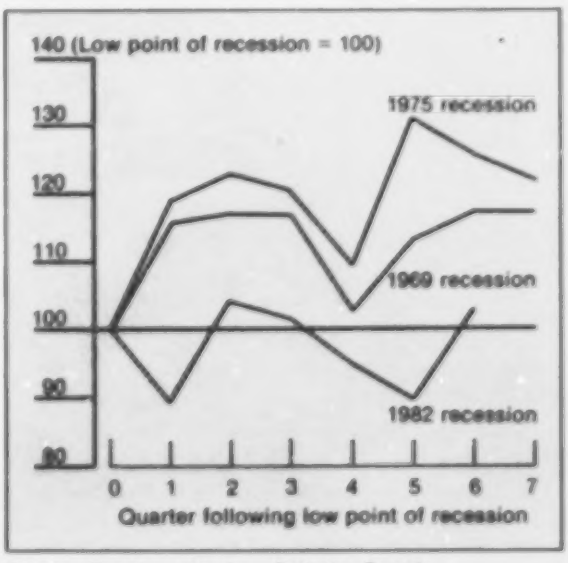
From a private issue – a decision by owner-managers of firms – the high leverage becomes a social concern. Quite often – indeed, too often – firms that cannot afford their debt either go bankrupt or turn to governments for help. Governments are then faced with the choice of paying out taxpayers' money to protect jobs – a cost to everyone – or of letting the firm go bankrupt, resulting in severe losses for its employees, the community, and society as a whole.

And this brings us to a second form of cost imposed on society by a leverage that is too high. Those firms which made it through the recession despite a heavy debt load are now devoting substantial resources to paying off the debt rather than investing in new capital goods. Normally, the deeper the recession, the stronger the investment in the recovery phase; thus investment in 1983 and 1984 should have been strong, since the 1982 recession was the deepest in the postwar period. On the contrary, investment growth in that period was the weakest of the three most recent recovery periods (Chart 4-3). In fact, investment declined in the first quarter following the trough of the 1982 recession instead of sharply increasing as it did during previous recoveries. Balance-sheet restructuring is seen by many as one of the reasons for the weak investment performance in Canada.[12]

Many factors have contributed to the increase in the debt burden of Canadian corporations. Decisions that, from a businessman's point of view, were rational when inflation was high and when real interest rates were low turned out to be quite costly for the individual and for society as the economic climate changed abruptly and expectations could not be realized. What was viewed as a temporary increase in debt load in an inflationary environment, to some extent induced by our tax system and made easier by our bankers, who for a while provided credit

Chart 4-3

Index of Business Investment in Recoveries from the 1969, 1975, and 1982 Recessions in Canada



SOURCE Based on data from Statistics Canada.

generously, became a heavy load as economic growth stalled and inflation dipped.

Canadians cannot count on inflation to solve the business debt problem just as they cannot count on fast growth and "super profitability" to reduce dramatically the share of income devoted to interest payments. Already the businesses, and particularly the larger concerns, that benefited from a favourable stock market in 1983 have started to restructure their balance sheets. Indeed, 1983 was a record year for raising new equity from public investors. Fiscal measures have recently been introduced by the federal government (more equitable treatment of tax losses; transferable tax credit) and by provincial governments that will contribute to the strengthening of the capital base of businesses. The venture-capital role of the Federal Business Development Bank has also been extended, thus increasing the availability of equity capital. These measures are a first step in dealing with the debt problem. Further actions, originating in the public and private sectors, will be needed to restore a sound financial position in the business sector.

International Debt

With the openness of the Canadian economy and the internationalization of its banking system, some of the difficulties that Canadian firms have encountered have international dimensions. Events of recent years have confirmed that an orderly international financial system is crucial for Canada's chartered banks and other financial institutions that are active abroad. Almost 40 per cent of Canada's bank assets and a slightly higher proportion of their deposits are denominated in foreign currency. Canada's banks also have many branches or subsidiaries abroad. The growth of Canadian banks in the international market is attributable to several factors, such as the astounding growth of the Eurocurrency market since the start of the 1960s and the high profitability of international banking activities in the 1970s.[13,14] This greater international involvement of Canadian banks, while profitable for our economy, also increased their sensitivity to international developments. Furthermore, international financial stability facilitates the international capital flows that accompany undisrupted and healthy international trade patterns, encouraging the growth of Canada's exports and the financing of imports. The problem of "global debt" – the difficulties that many less developed countries (LDCs) are experiencing in repaying their indebtedness to banks in advanced nations – has affected both Canadian banks and Canadian exports. And although some of the difficulties appear to be behind us, some risks remain.

Two years ago, Mexico declared a temporary moratorium on debt payment and subsequently restructured its foreign debt; a few months ago Bolivia notified private banks that it would suspend all payments on interest and principal until its domestic economic situation improved and subsequently requested a 90-day moratorium; Argentina missed several payments and seems now on the way to obtaining an agreement to reschedule its foreign debt.[15] Technically these and other countries have defaulted on their debt in the sense that they have missed one or more payments of interest or principal, although none has repudiated its debt obligations.

The problems of indebtedness are wide-ranging, affecting areas of Latin America, Asia, and Africa, as well as the communist world. Thirty-two countries have recently been considered problems by the Canadian Inspector General of Banks. These are countries which have rescheduled their foreign debt or are in the process of doing so, through arrangements with official lenders, the International Monetary Fund (IMF), or the commercial banks. Now the questions are: To what extent will more payments be postponed; what terms will the debtor countries be able to renegotiate; and can international indebtedness be managed so as to avoid, as has been done so far, a collapse of the economies of the borrowers and of the international banking and payment system? More important, how will present and future international developments affect Canadian banks and the Canadian economy?

The Debt Situation of Less Developed Countries

In 1982, the outstanding debt of LDCs was of the order of $600 billion (U.S.), and close to another $100 billion (U.S.) was owed by nations of Eastern Europe; about $375 billion (U.S.) of this was owed to commercial banks. Brazil and Mexico are among the most indebted developing countries; each of them owed more than $85 billion (U.S.) to their creditors (banks and others) at the end of 1982 (Table 4-4). By comparison, Canada's external debt at that time was $100 billion (U.S.), while France's was $106 billion and West Germany's almost $120 billion. More recent estimates place the total debt outstanding of LDCs at the end of 1983 at close to $800 billion (U.S.).[16]

Although common factors mark many of the indebted LDCs, there remain important differences. The 32 "problem countries" have been variously affected by recent economic developments and have different kinds and levels of debt obligations, and different capacities to service their debt.

Table 4-4

Debt Position, Selected Countries, 1982

	External debt		Total debt as a proportion of GNE	Debt service as a proportion of export receipts[1]		
	Owed to banks	Total		Interest only (1)	Interest + amortization on long-term debt (2)	Col. (2) + short-term debt (3)
	(Billions of U.S. dollars)			(Per cent)		
Brazil	66.6	86.3	30.6	53.5	88.0	154.7
Mexico	62.9	87.0	56.4	35.7	53.4	145.6
Venezuela	27.5	32.6	47.8	18.2	31.3	109.0
Argentina	25.7	36.5	59.8	49.2	99.4	195.0
Korea	23.2	37.3	56.5	13.1	20.7	61.4
Philippines	12.6	24.5	62.5	23.7	36.8	149.6
Chile	11.6	17.2	77.8	42.6	65.6	119.2
Indonesia	9.9	23.6	27.1	7.1	12.7	24.5
Yugoslavia	9.8	18.5	30.2	17.4	34.2	53.7
Malaysia	6.6	9.5	38.3	4.7	7.2	15.5
Peru	5.4	11.6	56.3	24.0	53.9	109.3
Ecuador	4.5	6.6	57.9	29.7	59.8	136.6
Morocco	3.9	10.8	72.0	17.2	38.1	54.7
Ivory Coast	3.4	8.0	111.1	20.2	34.7	83.6
Bolivia	0.9	2.9	44.6	42.4	56.2	110.8

1 Exports of goods, services, and (where positive) net private transfers.

SOURCE Based on Morgan Guaranty Trust, "Morgan International Data," International Economics Department, April 1984, and on The World Bank, *World Debt Tables: External Debt of Developing Countries, 1983-84 Edition*, Washington, 1984

The LDCs fall into three categories, grouped mainly according to their level of development and income per capita. For instance, Argentina, Brazil, Mexico, and Venuezuela – "the big four," as they are often called – belong to the group of industrializing countries; Jamaica and the Philippines, to the lower middle-income group; Bolivia, Madagascar, Senegal, and Sudan, to the low-income group.

These countries have contracted, in different proportions, three broad kinds of debt obligations. First, commercial loans are extended by banks and trade creditors operating on an individual basis or within a syndicate at market conditions, generally on a floating-rate basis, to private borrowers or governments deemed "good risks" – mainly borrowers in industrializing countries. A substantial portion of these loans go towards financing the creditor country's exports. Second, export credit extended or guaranteed by governments, and often subsidized at below-market conditions, supports the sales of products from the industrialized world. Finally, official concessional credit – namely, loans from government and international bodies such as the World Bank – is a form of assistance rather than a commercial transaction; it bears little or no interest and has long maturity and grace periods. This is the largest, if not the only, source of credit for the low-income and lower middle-income LDCs.

The level of foreign debt outstanding varies considerably from country to country (Table 4-4). But the liabilities of countries should be measured against the size of their economies and the level of exports, to gauge their capacity to meet their foreign obligations. The ratio of foreign debt to GNE is quite high for Mexico, Venezuela, Argentina, and Chile; it is equally high for Jamaica and Bolivia, even though these two countries have smaller absolute amounts of external debt outstanding. More significant is the ratio of debt service to export receipts. To keep their obligation in good standing, debtor countries are expected to assure the service of that debt. As most of the external debt is denominated in foreign currency, a borrowing country has to generate sufficient foreign exchange to support its debt service payments, including the amortization of long-term loans and the eventual repayment of short-term credit.

Exports are a primary source of foreign exchange, and a high ratio of debt service to export receipts means that the country may encounter difficulties in obtaining sufficient foreign exchange to meet its foreign obligations. Korea, despite a high level of external debt outstanding, has a relatively low ratio of debt service to export receipts; on the other hand, Brazil, Mexico, Venezuela, and Argentina have high ratios, which explains their difficulties. So, too, have Ecuador and Bolivia, who also have difficulty meeting

their payments, even though their external debt is not so high in absolute terms.

Even if these countries were able to secure further credit to refinance their maturing debt, a high ratio of interest payments and amortization of long-term debt to export receipts suggests that they could have difficulty meeting their payments or might have very little left with which to purchase necessary imports once the debt payments were made. This is clearly the case with Brazil; in 1982 it devoted $88 of every $100 in export receipts to the payment of interest and amortization. Argentina, with an even worse situation, had only 6 cents left out of $100 of exports to devote to the purchase of imports. These countries find themselves in a quandary, as the purchase of imports is essential to sustain economic growth and the production of export goods, without which they cannot secure foreign exchange.

Indebted LDCs have not always faced difficulties of this magnitude. Their financial situation deteriorated in the second half of the 1970s, when the ratio of debt service to exports increased dramatically.[17] A number of factors contributed to the deterioration. Overly expansionary policies and high inflation at home; an overvalued currency; a drop in the world price for basic commodities; slow growth in industrialized countries, which reduced LDC exports; and consequently lack of confidence, leading to a flight of capital – all of these hampered their capability to service their debt.

High interest rates on international financial markets have placed additional strains on the current account balances of many LDCs. The impact of rising rates was magnified by the increase in the proportion of the debt that was contracted at variable interest rates; in 1972 that proportion was about 5 per cent, while in 1982 it ranged from about 40 per cent to more than 75 per cent. The Eurodollar LIBOR (London Interbank Offered Rate) – a major determinant of the cost of commercial international loans – rose from 6.5 per cent in 1977 to about 19 per cent in 1980 and mid-1981, and real Eurodollar rates moved up from close to zero in 1976 to 7 per cent in 1982. While the real rate has eased somewhat since then, it is still extraordinarily high by international standards, and it has been estimated that an interest rate increase of 1 percentage point would add in excess of $3 billion per year to the debt service charges of LDCs.[18]

The rise in interest rates did not generally affect the lower-income countries because of the importance of concessional credit in their total foreign debt. The problems encountered by these countries, which in many cases occurred before the surge of interest rates, are generally attributed to the deterioration of export markets for some key staple products or to ill-directed domestic policies.

Many of the industrializing countries were also affected adversely by a shortening of the maturity of their debt, at a time when interest rates were rising. Indeed, as the international financial scene deteriorated, most commercial banks moved to shorten the maturity of their credit in the hope that they would be better able to move their funds out when the situation in individual countries became critical. The ratio of short-term debt (that is, debt with a maturity of one year or less) to exports rose to more than 90 per cent in Mexico in 1982, to more than 95 per cent in Argentina, and to more than 112 per cent in the Philippines.

Some countries have been able to weather the international crisis quite well. Korea, for instance, was adversely affected by the rise in international oil prices but quickly adjusted its domestic price accordingly. It did not allow its currency to become overvalued and did not follow domestic inflationary policies. As a result, it was able to keep the confidence of the world banking community, which is reflected in its relatively lower amount of short-term debt. Nevertheless, Korea remains vulnerable because of its high level of debt and its dependency on export markets.

The mounting difficulties of the less successful low-income and industrializing LDCs have brought forth a number of bleak prognostications, from the establishment of a cartel of debtor countries, for the purpose of obtaining changes in loan conditions, to outright repudiation of outstanding debt. None of these, though, seems likely to happen. Given the different situations and needs in each country, it is doubtful that a cartel could materialize.[19] Repudiation, although it has occurred in the past, would be a desperate move, since any country that took that step would be cut off, at least for some time, from international financial markets.[20] The industrializing countries – among them, the "big four" – have a strong interest in the stability of international trade and financial markets, since their own economic development depends upon it. Moratoriums on principal and, in some cases, on interest – some stretching over long periods of time – appear to be a more realistic outcome.

So far, attempts to improve the situation have involved the rescheduling of loans and the lengthening of the amortization period, with additional grace periods, all negotiated with the commercial banks, governments, and the International Monetary Fund. In most cases the overall financial package includes an IMF stabilization program supported by an IMF loan

and the rescheduling of loans owed to banks and governments. In many cases the bank creditors provide additional credit and/or agree to maintain existing lines of credit to finance needed imports and to permit continued debt service. Financial assistance is usually conditional upon the recipient country agreeing to implement policies to redress its domestic economic situation. This often involves difficult austerity measures.

More renegotiations are expected in the future, although the individual packages will likely vary, depending on each country's circumstances. Several countries are voicing their dissatisfaction and concern over the current rise of interest rates on international financial markets and are attempting to compensate for this increase through reductions in spreads.[21] In addition, some debtors have found the IMF-negotiated measures too stringent and are trying to reschedule payments and to secure further assistance without having to adhere to harsh domestic policies. Indeed, some of the measures designed by the IMF to address these countries' domestic economic problems have caused some governments to fear social unrest, such as erupted in the Dominican Republic early in 1984. There is also some discussion among experts about the impact of these measures on economic development, particularly in the lower middle-income and low-income nations.[22] But as the balance-of-payment problems experienced by many of these countries, particularly the industrializing LDCs, have their roots in domestic policies – in part at the very least – many LDCs will sooner or later have to undertake some difficult domestic adjustment, even if the IMF is not involved. Room to manoeuvre exists mainly in the timing and the degree of the adjustment process, although there is a tradeoff between the two – the later the adjustment, the more stringent the measures will have to be.

Some progress has been realized. Measures implemented in several countries have started to produce encouraging results. Furthermore, the decline in interest rates in 1983 and the economic recovery in the western world have contributed to an easing of the debt and balance-of-payment situation for several debtor countries. For all LDCs, debt service charges declined from $108 billion in 1982 to about $96 billion in 1983, the first decline after a continuous rise throughout the 1970s. This was the outcome of an important decline in LIBOR combined with a reduction in amortization payments following rescheduling operations. As a result, some individual debtor countries such as Mexico are on the road to recovery. But many LDCs are still plagued by their debt problems, and the recent increase in interest rates and a possible growth pause in 1985-86 in western economies and the United States are a source of concern to these countries and their creditors, among which are Canadian chartered banks.

Canada's Exposure

Most of the international assets of Canada's banks are invested in developed nations, such as the United States and other OECD countries (Table 4-5). Only about one-third of the international assets of the six largest Canadian banks are in developing nations, or about one-twelfth of the total assets of those banks. Furthermore, not all of these represent loans to the so-called problem countries. While precise figures are hard to come by, the exposure of the six largest Canadian banks to the 32 countries on the Inspector General's list has been estimated to have accounted for between 20 and 25 billion dollars at mid-1984. For the "big four" debtor countries, the figure is over $15 billion (Table 4-6).[23]

Canada's exposure to the debtor nations comes not only from the commercial banks but also from the federal government. Through the Export Development Corporation (EDC), the Canadian International Development Agency (CIDA), and the Wheat Board, the government is an important creditor to these countries. The EDC loans outstanding to developing and Eastern European countries amount to about $5.1 billion; loans to the 32 problem countries amounted to $2.2 billion as of December 31, 1983. And although the EDC does not explicitly make provision for loan losses and has not written off any loans, some of these have been, or are, under renegotiation. The Canadian Wheat Board extended short- to medium-term credit to countries that subsequently had difficulty in meeting their obligations, for example, Brazil and Poland. Finally, most of the CIDA loans go to very poor nations. CIDA has almost 2.7 billion dollars of concessional credit outstanding to developing countries, of which slightly less than $400 million is owed by the 32 problem countries.

Implications for Canadian Banks and for Canada

Nonperforming federal government loans to indebted LDCs will increase government expenditures and quite likely the federal deficit. A moratorium on payments, rescheduling, and/or partial write-offs will also affect the performance of our chartered banks.

Canadian banks operate their international and domestic divisions separately. While domestic loans are basically funded by deposits gathered through the branch system, foreign loans or loans denominated in foreign currencies are funded through non-

Table 4-5

Total and International Assets of Large Canadian Banks, 1983

	Total assets	International assets	Geographic distribution of international assets		
			Developed countries	Developing countries	
				Upper middle-income	Low-income
	($ Billions)			(Per cent)	
Royal Bank	86.7	30.1	64.2	33.6	2.2
Bank of Montreal	63.7	22.4	69.1	29.6	1.3
Canadian Imperial Bank of Commerce	68.1	19.2	74.1	24.2	1.7
Bank of Nova Scotia	54.0	25.7	69.2	28.0	2.8
Toronto-Dominion Bank	43.7	16.4	73.7	26.1	0.2
National Bank	17.8	4.6	47.0	48.9	4.1

SOURCE Estimates by the Economic Council of Canada, based on annual reports of the respective banks for 1983.

Table 4-6

Amount Loaned by Six Large Canadian Banks to Selected Latin American Countries[1] as of October 31, 1983

	Mexico	Brazil	Argentina	Venezuela	Other Latin American countries	All Latin American countries
	($ Millions)					
Royal Bank	1,328	1,075	400e	650e	750e	4,203e
Bank of Montreal	1,495	1,598	296	552	226e	4,167e
Canadian Imperial Bank of Commerce	940	934	270e	250e	360	2,754e
Bank of Nova Scotia	941	726	275e	506	639	3,087e
Toronto-Dominion Bank	822	712	150e	288	174e	2,146e
National Bank	543	545	159	145	341e	1,733e
Total	6,069	5,590	1,550e	2,391e	2,490e	18,090e

1 Lending to the four Latin American countries specified above appears to account for at least 70 per cent of all the loans made by these six banks to developing and Eastern European debtor nations.

SOURCE Merrill Lynch Canada Inc., Dominion Securities, Ames Limited, and annual reports of the respective banks for 1983.

Canadian-dollar deposits, often by recourse to international financial markets such as the London Eurodollar market. Domestic operations are thus insulated, at least to some extent, from international ones. The separation is only partial, because the same capital base supports both domestic and international activities. The capital base constitutes the security of all depositors and investors in the bank – foreign or domestic. In case of difficulties on the asset side, losses will be directly or indirectly charged against the capital base of the bank.

The exposure of Canada's major banks to the "big four" – which accounts for most of the exposure to the 32 "problem" countries – is greater than their capital stock, although it amounts to no more than about 7 per cent of their total international and domestic loans. Loans to Latin American countries amount to about 124 per cent of the banks' capital base. Loans to Mexico account for over 50 per cent of the capital stock of each of following banks: Bank of Montreal, Bank of Nova Scotia, and the National Bank of Canada. Loans to Mexico and Brazil, together, account for more than 120 per cent of the capital stock of the Bank of Montreal and 160 per cent of that of the National Bank. Should loans to one or several of these countries be written off, partially or in full, within a short period of time or should interest payments by these countries be interrupted for a year or more – although at the

moment there is no indication that either will occur – Canada's banks may have to dip into their capital base.[24]

The situation of the Canadian banks is not unique. Their exposure is less than that which is typical of U.S. banks (Table 4-7) and no greater than the exposure of banks in Britain and other countries. And their exposure is often inscribed in the context of a worldwide banking involvement, as the banks acted within syndicates of lending institutions from North America, Europe, and Japan. Thus the key feature of the exposure problem is its truly global ramifications. It is virtually inconceivable that Canadian banks would have to face a problem that is not shared by others and thus demand an international solution. It is conceivable, nevertheless, that one bank could encounter more difficulty than another because of a greater degree of exposure to an individual country or, more likely, because of a combination of this sort of hazard and other shortcomings closer to home.[25]

If a smaller bank were affected, a government-backed merger with a stronger partner would be a likely solution. A serious deterioration of the capital base of one of the bigger banks – each of which is so very large, not only in Canadian terms but even by world standards – would likely prompt remedial action by the entire international financial community. And almost from the first hour, the Canadian government would be involved.

Unlike the situation in the United States, however, it would be difficult for the government of Canada alone to put together the kind of rescue package that was devised in the case of the Continental Illinois Bank, particularly if it involved a guarantee for foreign depositors, who often move their money at the first sign of difficulties.[26] International deposits in U.S. dollars are an extension of the U.S. domestic market, and the U.S. government need merely print more dollars to make good its guarantee. To be able to liberate a Canadian bank's obligation to foreign depositors, the government would first have to secure U.S. currency. And since the banks' liabilities that are denominated in foreign currency far exceed Canada's foreign exchange reserves, any rescue package would then have to rely on agreements with international organizations, such as the Bank for International Settlement.[27] And there is some evidence that such agreements are in the works. What this means is that the resources of industrialized nations as a whole would ultimately be available to support any major Canadian bank experiencing undue difficulties because of indebtedness on the part of LDCs.

More realistically, barring an international financial disaster, the impact of the "global debt problem" is to reduce the profitability of Canadian banks, particularly in their foreign lending operations. Provisions for loan losses and cases of delayed interest payments directly cut into profitability. Moreover, rescheduling may impose an opportunity cost, especially when it involves additional lending, if the spreads on rescheduled or new loans are lower than those banks could get for alternate real lending opportunities and if the rescheduled loans are viewed as a relatively poorer risk than alternate lending opportunities.

The performance of these international loans has, however, to be placed in the context of the performance of a bank's whole portfolio. Other international loans may compensate through better performance, as may the domestic side of the portfolio. At times, there has indeed been quite a difference in profitability between domestic and international operations (Table 4-8). A decline in the return from international transactions can sometimes be offset by an increase in the return on domestic assets, as happened in 1983. Nevertheless, lower profitability on the international side is pulling down the overall rate of return on the assets of Canadian banks.[28] A decline in earnings reduces the ability of banks to increase their capital stock. On the one hand, lower retained earnings are

Table 4-7

Loans by Canadian and U.S. Banks to Three Major Latin American Countries, Late 1983

	Total for three countries[1]	Proportion of bank equity
	(Millions of Cdn.$)	(Per cent)
Canadian banks:		
Royal Bank	3,053	93
Bank of Montreal	3,645	153
Canadian Imperial Bank of Commerce	2,144[e]	87
Bank of Nova Scotia	2,173	118
Toronto-Dominion Bank	1,822	96
National Bank	1,247	190
	(Millions of U.S.$)	(Per cent)
U.S. banks' holding companies:		
Citicorp	9,100	157
Bank of America	6,839	133
Chase Manhattan Bank	5,339	149
Manufacturers' Hanover	5,366	201
J. P. Morgan	3,700	111
Chemical Bank	3,466	150
Bankers Trust N.Y.	2,465	138
First Chicago	1,909[e]	110
First Interstate	1,290	69
Continental Illinois	1,611	88

1 Mexico; Brazil; and Venezuela or Argentina, whichever is greater.
SOURCE Based on annual reports of the respective banks for 1983; and Dominion Bond Rating Service.

automatically translated into smaller increases in the capital base; on the other hand, reduced profitability has a negative impact on the price of a bank's stock, thus making it more difficult or less advantageous for the bank to raise new equity.

Reduced earnings and a threat to their capital base constitute the price that banks are paying for having "strayed away from basics," as one financial analyst put it. They overextended themselves to single countries, "putting too many eggs in one basket," just as they overextended themselves to a few single domestic borrowers.

Furthermore, banks lent long and borrowed short. Medium-term loans to developing countries were mainly funded through short-term deposits on the Eurodollar market. Such a practice increases the financial risk faced by the banks, although it does not affect earnings as long as the borrower is in good standing, because loans were extended at a floating rate. Current rescheduling efforts may exacerbate the problem by lengthening the amortization period of the loans.

None of these considerations implies that the banks should not have been lending to LDCs. The expansion of the role of the banks in the financing of LDCs in the late 1960s and early 1970s – associated with the expansion of the Eurodollar market, the improvement in the terms of trade of LDCs, and the emergence of a rising number of creditworthy borrowers among those countries – was made on solid grounds. The banks, sometimes encouraged by western governments, aided the development of LDCs and played a key role in the "recycling" of huge petrodollar surpluses, thus contributing to the stability of the international financial system. In hindsight, the banks, buoyed by the confidence of the late 1970s, may have overextended themselves to some individual borrowers.

But despite the international uncertainties, the banks have made substantial progress over the past year in fortifying their capital base. Over the six-month period from October 31, 1983, to April 30, 1984, the six largest chartered banks improved their ratio of gross assets to primary capital from a multiple of 32 to 1 to a multiple of 28 to 1. Banks have also been encouraged to make adequate provision for possible losses on their international loans. The latest request by the Inspector General of Banks to gradually build up specific and general provisions for loan losses to a range of 10 to 15 per cent of exposure to the problem countries is a step in the right direction, and the banks have indeed started to do so.

Table 4-8

Return on Assets from the Domestic and International Operations of Six Large Canadian Banks, 1979-83

	1979	1980	1981	1982	1983
			(Per cent)		
Royal Bank					
Domestic	0.51	0.42	0.54	0.29	0.66
International	0.90	0.98	0.88	0.60	0.35
Bank of Montreal					
Domestic	0.67	0.53	0.63	0.34	0.57
International	0.59	0.77	0.67	0.55	0.22
Canadian Imperial Bank of Commerce					
Domestic	0.52	0.31	0.46	0.31	0.50
International	0.49	0.62	0.74	0.65	0.37
Bank of Nova Scotia					
Domestic	0.65	0.47	0.49	0.32	0.54
International	0.69	0.77	0.60	0.74	0.76
Toronto Dominion Bank					
Domestic	0.72	0.68	0.66	0.63	0.85
International	0.65	0.75	0.88	0.76	0.57
National Bank					
Domestic	..	0.02	-0.21	-0.40	0.41
International	..	0.69	0.64	0.58	0.72

SOURCE Annual reports of the respective banks for 1983.

In future, it is conceivable that, because of recent experiences domestically and internationally, banks may become more cautious in their international and domestic activities, just when the international community and the Canadian economy needs their full aggressive support to strengthen the recovery.[29] Canada is also affected by the reduction of imports by the indebted LDCs. This cutback may remain in effect for some time, as strong trade surpluses are a necessary condition for their financial recovery. Moreover, as long as a cloud remains over the international financial system, some dangers, although remote, will exist for such an open economy as Canada's.

Looking Ahead

Despite signs of improvement in 1983, the global debt situation remains a source of concern. Debt overhang continues to be a drag on the expansion of world trade and thus a constraint on Canadian economic expansion. It is unlikely that there will be repudiations of debt currently outstanding. Negotiations to reschedule and reorganize loans outstanding will be dragged out, however, particularly in order to alleviate the burden on many developing countries.

Nevertheless, the fact that the international financial system has so far been able to weather the many difficulties that have developed in recent years is encouraging. Indeed the IMF offered a rather optimistic scenario in April of this year.

> Assuming moderate rates of growth in the industrial countries, some fall in real interest rates, and unchanged terms of trade, and assuming also that non-oil developing countries continue their present adjustment policies, the conclusion is reached that most groups of [LDCs] can achieve adequate rates of growth of GDP (although somewhat below the rates attained during the 1960s and 1970s), while restoring a manageable position with respect to their current accounts and debt service burden.[30]

Some have argued that the assumptions underlying the IMF scenario are too optimistic.[31] Clearly, the risks in such a scenario turn on the possibilities of increasing interest rates or of a serious growth pause in the United States or Europe.

Strong growth in the industrialized world remains the key. Simulations developed elsewhere show that a "1 basis point change in OECD growth is seven times as powerful as each basis point change in the interest rate in remedying the [LDC] problem."[32] For growth in the industrialized world to translate into larger LDC exports and thus into stronger LDC growth, any movement towards protectionism must be avoided; on the contrary, there must be greater liberalization of world trade.

And the problems of LDCs involve economic development, industrialization, and commitments to raise the living standards of their populations. Faced with the dilemma of being unable to service their debt fully or of forsaking the purchase of capital imports needed for maximum economic growth, most LDCs need fresh funds to finance domestic investment projects, as well as interest relief. But the experience of the private financial institutions and commercial banks has discouraged them from advancing additional loans to LDCs.

To help resolve the problems of individual countries, many proposals have been put forth by bankers, by the debtor countries, by western analysts, and by such agencies as the World Bank and the IMF. These range from the creation of an International Debt Discount Corporation, a Global Municipal Assistance Corporation, and a rediscounting facility – all of which would involve some losses by the banks – to interest capping or linking the debt service to the capacity to pay.[33] Other observers, including the U.S. government, have urged a country-by-country approach to the issue, with remedial measures being individually tailored to each borrowing nation's circumstances. We are sympathetic to this approach.

Nevertheless, as we have indicated, a long-lasting solution will require a return to healthy economic growth, worldwide, along with trade opportunities that would help to restore the financial viability of those LDCs most in debt difficulty and enable them to meet their immediate and longer-term debt service obligations. This is a task for the international community, and a difficult one indeed. The Canadian government and the Canadian banking system are important partners working towards the achievement of such a solution. We urge the government of Canada to continue its active participation within the IMF and other international forums to ensure a permanent solution to the problem of international debt.

As well, the Canadian government has an equal opportunity to buttress confidence among domestic investors and financial institutions. It must encourage the strengthening of their financial and equity base so that the longer-term resolution of international liquidity problems will not slow down the process of renewed domestic growth.

Containing the ratio of public debt to GNE is important to enable governments to contribute effectively to the economic and social development of this nation. A continued sound balance sheet in Canada's banking sector is essential to enable the commercial banks to partake – as they always have –

in financing the domestic economy and channeling savings into investment projects. A strong corporate equity base is a prerequisite for the business sector, to enable it to concentrate on producing goods and services and creating jobs. It is to this latter issue – namely, the prospects for employment and unemployment, and the need to create jobs – that we now turn.

5 Employment, Unemployment, and Technological Change

Today, Canada's foremost requirements are business confidence and jobs. Without new policy initiatives and a major renewal of private investment, our projections in Chapter 1 show little prospect of significantly lower unemployment rates for the medium term.

Why are unemployment rates so high, and why are the employment prospects so bleak? Are there chronic structural factors or technological biases in the way the economy is evolving that go beyond the more traditional business cycle reasons for variations in employment and unemployment? Does the rising unemployment rate augur a yet worsening situation for future generations or will the slowing of young persons entering the labour force reverse that trend? Are there deep-rooted structural developments that have somehow rendered employment prospects less secure and heightened the incidence of unemployment? Do new technological developments associated with microelectronics and the use of robots in manufacturing give cause for additional worries about chronic unemployment well into the next decade?

With the recovery well under way, we can no longer point to the recession as the major cause of the high unemployment in this country. Although substantial numbers are unemployed because of deficiencies in demand, most observers think that a significant percentage is due to noncyclical factors. Thus we must turn our attention to the unemployment that is deemed to be structural in nature, which we use here in the broad generic sense to include seasonal and technologically induced unemployment. To do that, we look at the changing profile of the labour market, some factors that contribute to high structural unemployment, and the past and future impact of technological change on employment.

Clearly a variety of factors have affected the employment and occupational opportunities of Canadians. Changes in life styles have had their own occupational dimension, as have changes in the demographic structure of the population and in government policies that frequently favour certain sectors and consequently expand the opportunities for particular occupations. International competition has helped to shape industrial and occupational demand. Witness the increased numbers of petroleum engineers following the escalation of world oil prices and heightened demand for Canadian oil and gas and, earlier, the growth of employment in automobile assembly and auto parts manufacturing as the result of the Canada-U.S. Auto Pact.

Among the other unknowns that Canada faces in the future is the matter of how the patterns of consumption and investment will change in response to the productivity increases and gains in real income that new technology can make possible. If past experience is any guide, demand will favour small and medium-sized business activities or chains of affiliated enterprises and the production and consumption of goods and services in keeping with an aging population and the life style of families with two or more earners. That process has already begun.

The Changing Profile of the Labour Market

Indeed, one of the most striking features of the postwar years has been the growing importance of the service sector – including transportation, trade, and government-provided services – in providing new jobs in the economy. In the most recent decade from 1973 to 1983, for instance, of the close to 2 million additional jobs created, almost all were in service sector occupations. Over half of this net increase in new jobs was in community, business, and personal service activities, which now employ more persons than all the manufacturing, construction, agriculture, and other primary industries combined (Table 5-1). Today, service sector jobs, including those in transportation and trade, account for more than 70 per cent of employment in Canada.

A parallel phenomenon is the relative decline in the manufacturing and primary work force. Although absolute employment in manufacturing gradually increased until 1981, the ensuing recession and plant modernization eliminated about one-quarter million manufacturing jobs, and fewer people are employed today in manufacturing than a decade ago. In the primary sectors, employment in agriculture has been generally stable; in forestry, it has declined; and while the energy boom of the late 1970s provided additional stimulus to employment in mining, this too fell off during the recession. In relative terms the share of employment commanded by primary and secondary

Table 5-1

Employment, by Industry, Canada, 1973 and 1983

	1973	1983	Net change, 1973-83
	(Thousands)		
Primary sector	693	757	64
Agriculture	469	476	7
Other primary industries	224	281	57
Secondary sector	2,466	2,452	-14
Manufacturing	1,927	1,886	-41
Construction	539	566	27
Tertiary sector	5,602	7,525	1,923
Transportation, communication, and other utilities	775	870	95
Trade	1,503	1,850	347
Finance, insurance, and real estate	424	602	178
Community, business, and personal services	2,290	3,421	1,131
Public administration	610	782	172
Total	8,761	10,734	1,973

SOURCE Based on data from Statistics Canada

activities shrank over the last decade from 36 per cent to less than 30 per cent of total Canadian employment.

These developments reflect a number of influences. As incomes per capita rise and as growing urbanization affects the tastes and activities of individual consumers, so the demand for services increases. In some cases this demand goes hand in hand with the demand for material goods. But, as we noted in our Fifteenth Annual Review, there is strong evidence that increases in real household incomes tend to lead to even larger increases in the volume of services demanded, even though in many cases the price of services has increased more than that of material goods.

The growth of service activities has been favourable to youth and female employment, including women and young people working at part-time jobs. Family life is changing and evolving; and, except during the trough of the recession in 1982 when many persons withdrew from the labour force, much of the growth of Canada's labour force has resulted from increases in the participation rates of women and young people. Faced with the slower growth in real wages and salaries that has accompanied the productivity slowdown in recent years, more and more family members are choosing to enter and to remain in the labour force. In 1983 more than 25 per cent of all women and 30 per cent of young people under the age of 25 were employed part time, mostly in the service sector, where wives, students, and youth have found opportunities to add to the family income (Table 5-2). Indeed, what is surprising is the number of young people who are able to attend school and to work. According to the 1981 Census, almost half of the 2.2 million youths aged 15-24 who were attending school full or part time had jobs or were looking for work.

Table 5-2

Part-Time[1] as a Proportion of Total Employment, by Age and Sex, Canada, Selected Years, 1953-83

	Men	Women	Young workers[2]
	(Per cent)		
1953	1.8	10.7	..
1963	4.3	21.5	13.9
1973	6.0	24.6	20.5
1983	7.6	26.2	29.9

1 Part-time workers are defined as those who normally work less than 35 hours per week. In 1975 the maximum was reduced to 30 hours per week.
2 Those aged 14 to 24 for 1963 and 1973, 15 to 24 for 1983.
SOURCE Based on data from Statistics Canada; see also Economic Council of Canada, *People and Jobs* (Ottawa: Information Canada, 1976)

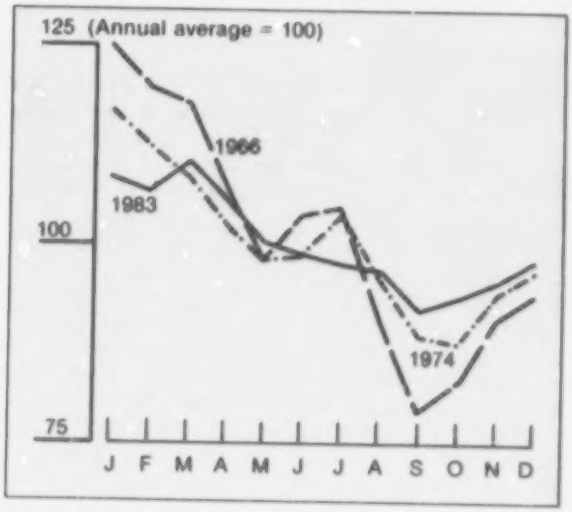
At the same time, the growth of service activities has probably contributed to the higher frictional unemployment associated with the movement of workers between jobs and in and out of the labour force. Some services such as those in the tourist and recreational industries are highly seasonal, though to some degree the peaks and troughs of seasonal activity in some occupations are offset by those in others. In fact, today we have higher levels of unemployment throughout the year, and the seasonal volatility of unemployment now is much lower than it was in the 1960s (Chart 5-1). This is consistent with the higher rates of participation in the labour force of women and young persons throughout the year, the relative decline of employment in the increasingly capital-intensive seasonal industries such as forestry and fishing, and a "churning" of people and jobs in some low-paid service activities.

Factors Contributing to High Structural Unemployment

The increase in noncyclical or structural unemployment is disturbing. Part of the increase may be explained by mismatches in the job market, the longer duration of unemployment, the effects of wage differentials, and technological change.

Chart 5-1

Index of Seasonal Unemployment, Canada, 1966, 1974, and 1983



SOURCE Based on data from Statistics Canada.

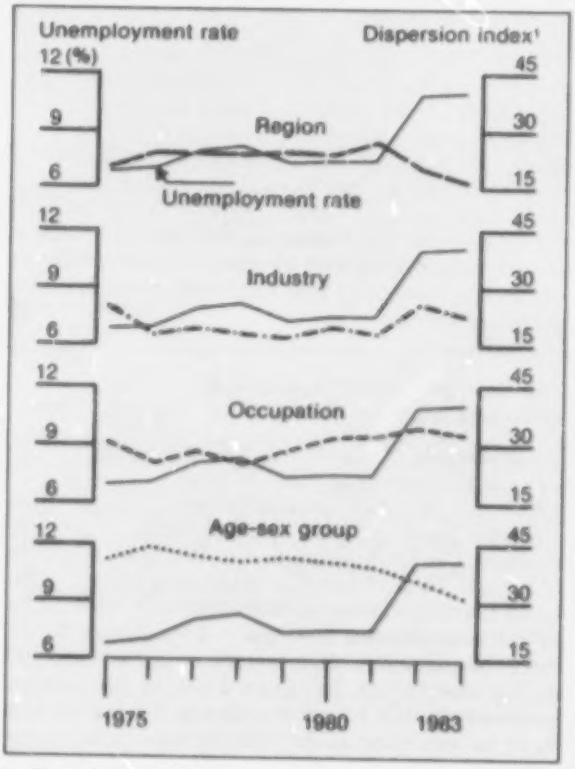
Mismatches in the Job Market

Whereas frictional unemployment does not usually last long, some structural unemployment has been identified with the longer duration of unemployment caused in part by an occupational mismatch of workers and jobs. Mismatches may occur because of artificial barriers or because the unemployed lack the necessary education, training, or occupational experience, or are unwilling to take vacant jobs because of their location, arduousness, or wage levels. Some years ago we tested whether greater mismatches – measured by the index of the dispersion of unemployment – were occurring among regions, industries, occupations, or age-sex groups. We came to the conclusion then that whatever worsening of structural unemployment patterns had occurred up to 1974 sprang "mainly from changes on the supply side of the labour market, particularly in the age-sex composition." We noted that whatever the fears about the impact of technological change and automation "a worsening of the unemployment pattern along occupational and industry lines . . . is not apparent."[1] Today, from the vantage point of the mid-1980s, are those views still valid?

Looking at indexes of unemployment dispersion for the more recent period, the earlier upward drift of the age/sex index and the downward drift of the occupational and industrial indexes seem to have been arrested and modestly reversed (Chart 5-2). And while there were substantial variations in unemployment experience among subgroups, virtually all suffered in the recent recession. This implies that the extra supply pressure on the labour market apparent in the early and mid-1970s, when the entry of the "baby boomers" and women was most pronounced, has eased somewhat, even though unemployment among all groups has increased. The widening unemployment disparities among occupational groups suggest, however, that the problem of occupational mismatches may be intensifying as the occupational content of jobs changes or as older skills become obsolete.

Chart 5-2

Index of Unemployment Dispersion, by Region, Industry, Occupation, and Age-Sex Group, Canada, 1975-83



1 The dispersion index is calculated by summing the absolute difference between the share of unemployment and the share of the labour force for each sector. For example, 23.8 per cent of the unemployment in 1983 applied to young men aged 15 to 24, while that group accounted for only 12.6 per cent of the labour force, thus it contributed 11.2 points to the dispersion index, by age-sex group.

SOURCE Based on data from Statistics Canada.

We also compared unemployment and job vacancy rates for the years 1966 to 1983 (see Appendix Chart C-1). The results suggested that, apart from cyclical and trend factors, during most of the 1970s some of the unemployed responded to advertised job openings more selectively, and turnover among employees was more rapid than in the 1960s. Employers were also less able to attract workers to low-paid jobs. Together, these factors reflected significant structural imbalances and mismatches. The fact that the statistical relationship between unemployed workers and job vacancies in the last few years has reverted to the pattern of the 1960s – when people were less likely to quit their jobs and, if unemployed, responded more readily to job vacancies – may be indicative of a maturing labour force in which some of the unemployed are now more inclined to take whatever jobs they can get.

Does the apparent return to earlier behavioural patterns offer prospects that, despite the severity of the latest recession and its aftermath, high structural unemployment may ease? Will workers find suitable jobs more quickly, and will turnover slow down? Our projections are not optimistic, even though demand-induced overall employment growth normally swamps whatever structural or technological displacement may occur. While employment growth should also outrun labour force growth, difficulties still persist. Our concern is heightened by the disproportionate severity of unemployment for certain groups rendered idle for long periods of time and whose plight appears to have worsened.

The Unemployment Experience: Short or Long?

Traditionally, because of the relative fluidity of Canada's labour force and the large number of jobs with high turnover, unemployment has affected relatively more people, but has been of shorter duration in North America than in the major countries of Europe. Most of those reported unemployed in the larger European countries have been without work for at least six months, and many have been idle for more than one year. By contrast, in Canada in 1983 slightly fewer than 10 per cent of the unemployed were without work for more than a year.[2] Though this figure is very much lower than that for some European countries, it is up substantially from a few years earlier.

From 1980 to 1983 the number of long-term unemployed more than tripled, while total unemployment rose 69 per cent (Chart 5-3). Every age group was adversely affected, but those aged 25 to 44 apparently bore the brunt of rising unemployment rates (Chart 5-4). Admittedly youths and women are relatively more prone to abandon searching for a job than adult men, and this tends to lower their representation among the recorded long-term unemployed. The fact remains, however, that long-term unemployment is a crucial issue today.

Relative Wages

None of these developments can, of course, be dissociated from changes in relative wage structures. Some observers have identified rising unemployment not so much with mismatches or demand deficiencies, although these are acknowledged, as with the increase in so-called "rigidities" in economies that lead to distortions in the efficient use of labour and capital. Among these are "wage rigidities," which discourage employers from lowering the costs of their products during periods of declining demand, thereby throwing the burden of adjustment onto reductions in output and employment. The combination of contractual or other arrangements that inhibit the lowering of wages in times of market decline and rising nonwage labour costs – for example, payroll taxes or contributions paid by the employer that may discourage firms from hiring additional personnel when markets are more buoyant – are seen as rigidities that contribute simultaneously to higher inflation and unemployment.

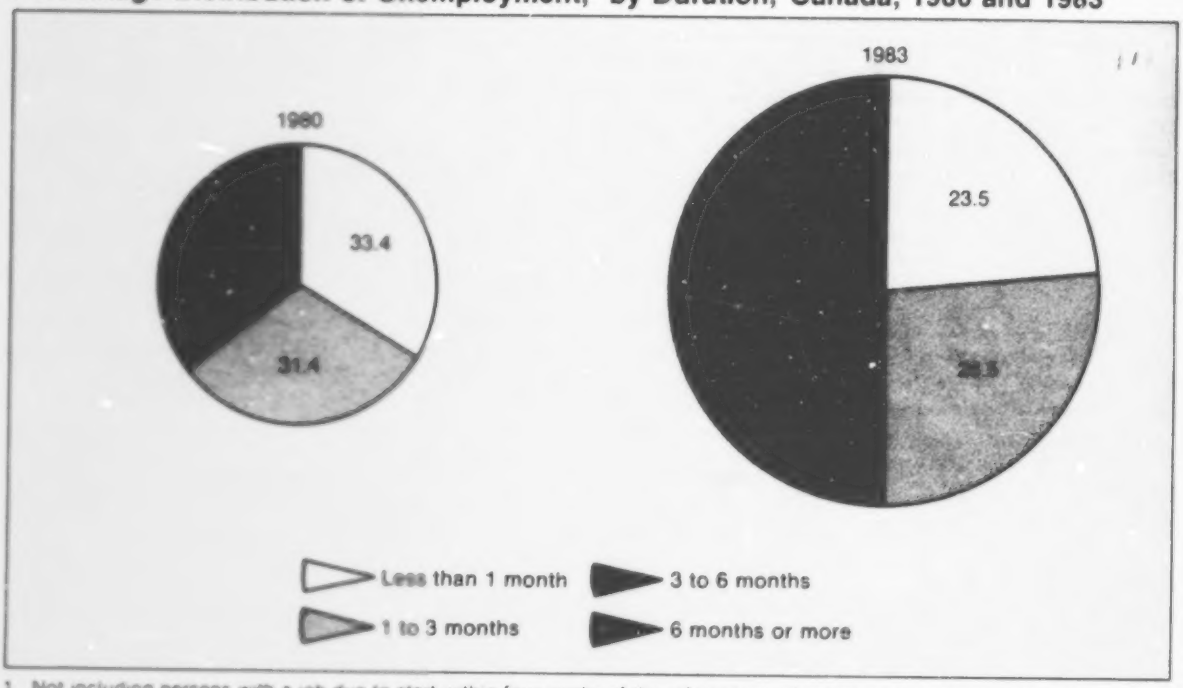
> Another way to tell this story is to say that profits are squeezed by real wages that are out of line with productivity. Labour costs per unit of output are just too large relative to product prices to give employers any incentive to expand production and employment. If rising monetary demand raises firms' product prices, or allows them to raise prices to restore profit margins while expanding output and sales, they will be quickly frustrated by increases in money-wage rates as a result of formal or informal indexation. In this story of classical unemployment there is an excess supply of labour at existing real wages.[3]

Proponents of this school believe that "greater wage flexibility would improve the possibility of achieving stronger non-inflationary growth and increase the utilization of labour."[4] As evidence, they point to the flexibility of the North American market, where collective bargaining is more decentralized than in Europe and where, at least in the United States, the rebound from the recent recession has been much more rapid and pervasive than elsewhere.

We would urge some caution with respect to arguments for greater wage flexibility as a primary vehicle to improve economic performance. The issue of variable wages should be considered in both the short and long runs. In the immediate relationships between employers and employees, there is value in the certitude provided by explicit or implicit contracts that cover wages, nonwage benefits, and working conditions over a stipulated time. Moreover, if

Chart 5-3

Percentage Distribution of Unemployment,[1] by Duration, Canada, 1980 and 1983



1 Not including persons with a job due to start within four weeks of the reference week who had not actively looked for work in the previous four weeks but who were available for work during the reference week.

Note: The difference in the size of the two circles is directly related to the differences in the numbers of unemployed.

Source: Based on data from Statistics Canada.

employing firms expect workers to accept wage cuts in times of market slack, there is a strong presumption that workers will share profit increases when markets are more buoyant.

In Canada, profit sharing as a major element in rewarding labour – along the lines practised in Japan – has as yet only limited support from either labour or management. Widely fluctuating profits in many Canadian industries militate against such arrangements, and most unions have found that periodic contract negotiations provide a structure through which workers can lay claim to a share of an industry's longer-run profitability. In the process of negotiating, parties may well bargain on issues such as work practices or overtime, which contribute to labour-cost flexibility – as distinct from hourly or weekly wage flexibility – while respecting the principles of employment security and labour standards legislation.

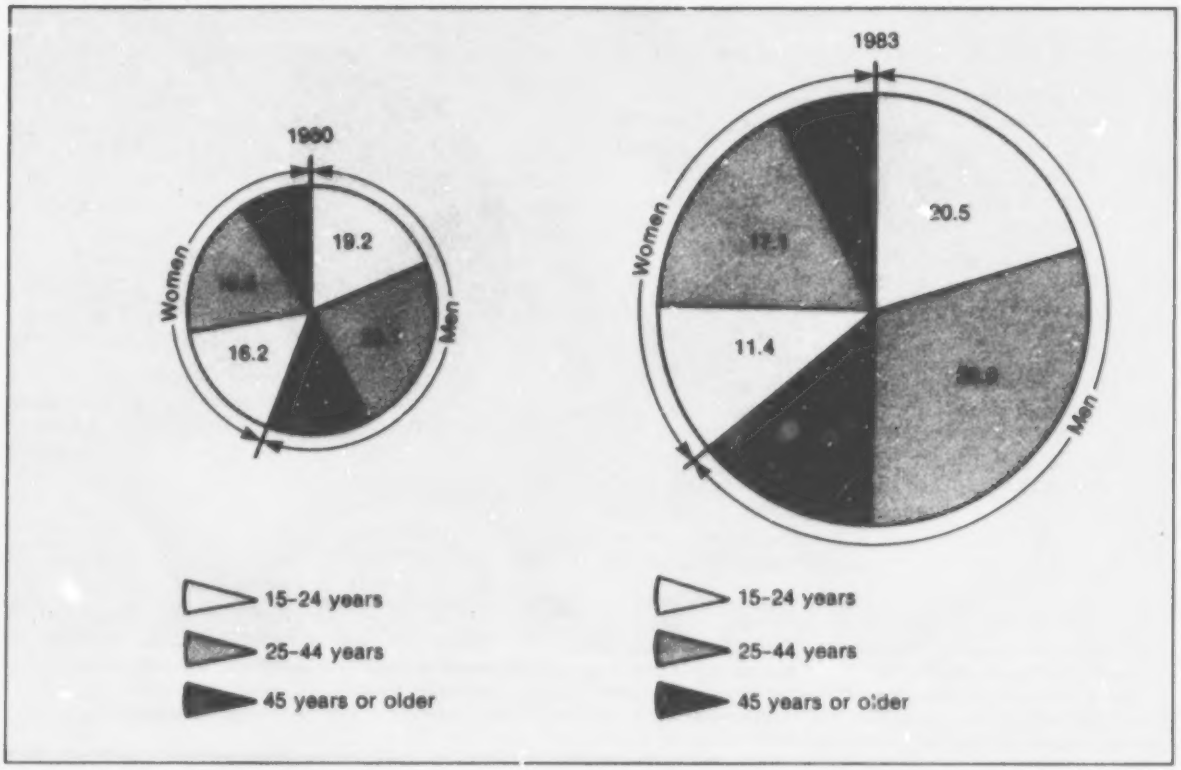
Moreover, nonwage labour costs – such as contributions to unemployment insurance, pensions, and health care; and leave benefits – constitute some of labour's most fundamental entitlements. These entitlements form a basic part of the social infrastructure of Canadian life and, assuming that the commitment of Canadians to them is continuous, the reduction or elimination of the payroll taxes that now finance them would almost inevitably require increases in general taxation.

Clearly, however, in certain circumstances, workers have shown a distinct preference for wage moderation in exchange for continued employment. Of late, for instance, there have been dramatic reductions in major wage settlements in Canada. Indeed, in the second quarter of 1984 wage settlements effectively averaged 3.2 per cent, "the lowest quarterly figure since the start of the wage settlement series in 1967."[5] About one-quarter of these settled agreements called for a wage freeze or cut.

Indeed, over the longer run, there is evidence of substantial adjustments in the work place and among industries in response to a variety of factors, including

Chart 5-4

Percentage Distribution of Long-Term Unemployment[1] among the Demographic Groups, Canada, 1980 and 1983



1 Unemployed for 6 months or more.
NOTE The difference in the size of the two circles is directly related to the difference in the numbers of long-term unemployed.
SOURCE Based on data from Statistics Canada.

changes in relative wages (Chart 5-5). Average weekly wages and salaries in the nonagricultural primary and secondary sectors and in transportation – industries that are male-dominated and largely unionized – increased substantially over the two decades from 1962 to 1982, and it was precisely in these activities where the greatest amount of substitution of capital for labour and employment displacement occurred. Many enterprises sought to offset disadvantages in labour costs internationally through more capital-intensive processes, relying as we have seen on borrowings at low real interest rates. With the expansion of many occupations requiring minimal skills or filled part time by young people or women with limited work force experience, relative wages in the lower-paid trade and service sectors deteriorated against the industrial composite. The largest proportionate increase in employment occurred in the finance, insurance, and real estate sector, where demand factors appear to have dictated a modest improvement in relative wages.

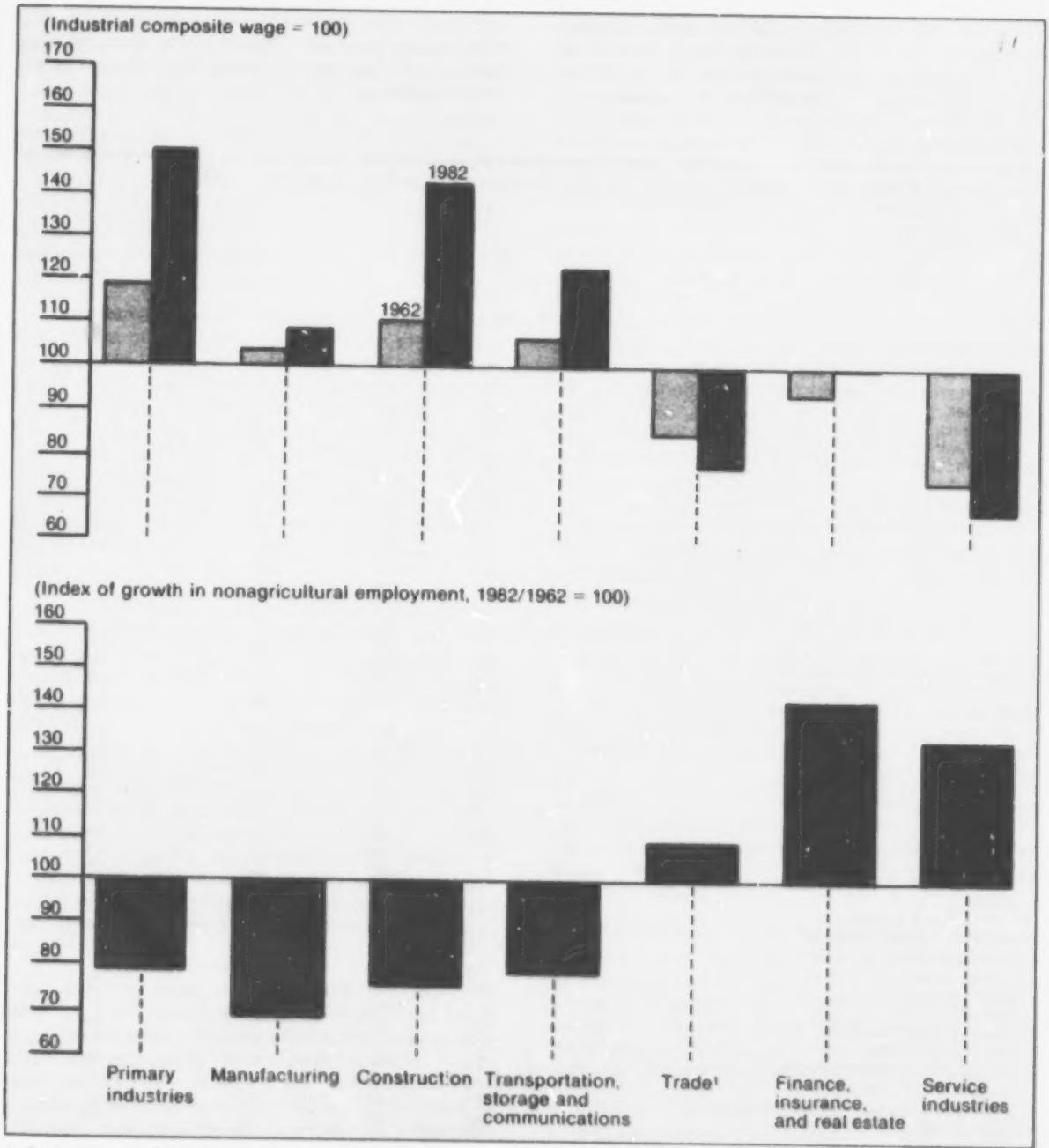
Overall, therefore, the longer-term strength of market forces has led to a considerable widening of wage and salary structures in Canada. Within the structures, however, there may well be noncompetitive elements in wage setting that are discouraging additional employment.

Some Insights into Structural or Technological Change

Without doubt the infusion of new technology has had substantial effects on employment both in the manufacturing sector and increasingly in the service sector, extending the knowledge of scientists, technicians, and clerical workers alike. To isolate the impact of these changes from other influences on the

Chart 5-5

Relative Wages and Employment Growth, by Industry, Canada, 1962-82



1 Relative wage in 1981 rather than 1982.

SOURCE Department of Finance Canada, *Economic Review*, April 1983.

level of employment in industries and occupations, we draw on a study that examined what the employment profile, by industry, would have looked like in 1979 had Canada's output in that year been produced with 1971 techniques, plants, equipment, and labour.[6] The difference between the actual employment of 1979 and the estimated employment using 1971 methods of production reflects the impact of structural changes on employment that arose, to a large extent, from technological adaptation in the Canadian economy.[7] Then to give a balanced view of changes in employment, the impact of these structural changes was compared with the actual total employment growth, by industry, to take account of changes to the industries in both the level and the composition of final demand. The analysis was confined to commercial enterprises disaggregated into 39 industries (Table 5-3).

Table 5-3

Causes of Change in Employment in the Business Sector, Canada, 1971-79

	Employment		Change, 1971-79, caused by:	
	1971	1979	Final demand	Technological change
			(Thousands)	
Total business sector	5,941	7,633	2,319	-626
Agriculture	502	497	82	-86
Forestry	60	65	29	-24
Fishing, hunting, and trapping	20	30	6	3
Metal mines	61	53	**	-9
Mineral fuels	22	35	13	**
Nonmetal mines and quarries	20	21	5	-4
Services incidental to mining	18	32	7	7
Construction industry	558	680	129	-7
Transportation and storage	376	451	175	-100
Communication	144	200	91	-35
Electrical power, gas, and other utilities	65	90	38	-13
Wholesale trade	344	457	147	-34
Retail trade	930	1,264	387	-53
Other finance, insurance, and real estate	336	521	156	29
Education and health services	77	107	29	1
Amusement and recreation services	45	77	38	-7
Services to business management	268	489	147	74
Accommodation and food services	298	458	139	20
Other personal and misc. services	159	253	36	58
Manufacturing industries	1,638	1,853	664	-447
Food and beverages	221	233	43	-31
Tobacco products	10	9	2	-3
Rubber and plastic products	45	62	24	-7
Leather	28	26	4	-7
Textiles	69	69	38	-39
Knitting mills	24	21	10	-12
Clothing	100	101	34	-33
Wood	93	123	45	-15
Furniture and fixtures	45	52	19	-12
Paper and allied products	119	128	41	-32
Printing and publishing	86	103	44	-26
Primary metal	113	126	41	-28
Metal fabricating	139	163	57	-32
Machinery	71	101	50	-20
Transportation equipment	151	189	82	-43
Electrical products	123	120	55	-58
Nonmetallic mineral products	52	57	15	-10
Petroleum and coal products	14	18	6	-2
Chemicals and chemical products	77	86	30	-21
Miscellaneous manufacturing	58	66	24	-16

**Very small positive change.

SOURCE: Sunder Magun, "The Effects of Technological Changes on the Labour Market in Canada," Paper presented to the Canadian Economics Association, Guelph, May 1984.

The Impact of Technological Adaptation by Industry — Unquestionably, the impact of technological change is pervasive, and the adoption of new technology has led to a substantial saving of labour in some industries. Throughout the 1971-79 period, advances in technology made it possible to produce the 1979 level of output with 8 per cent fewer jobs in the commercial sector of the economy than would have been required under 1971 conditions. This represented a labour saving of approximately 630,000 jobs. As expected, the impact of technology varies from one industry to another. Only in seven of the thirty-nine industries did the introduction of new technology call for additional labour skills. In all others, the labour saving ranged from 37 per cent of total employment in knitting mills to 1 per cent in the construction industry.

Industries vary in size, and the impact of technological change on employment depends on the relative, as well as the absolute, variations in the numbers of persons who are affected. For example, while the knitting mills industry was heavily hit by technological change, it represents a relatively small share of the total number of workers affected. By contrast, though the transportation and storage industry lost 100,000 jobs – the largest employment loss attributable to technological change – its relative loss was not as significant because employment in that industry is so large.

Not surprisingly, of the industries adapting the most to technological change, most were in manufacturing – some being "soft industries," such as knitting mills, textiles, clothing, and leather. All were highly exposed to international competition and were looking for more cost-efficient ways to produce.

The impact of technological change is widespread. Looking at the numbers of workers affected, we see considerable displacement in a diverse set of industries. Agriculture has been greatly affected, as have many industries in the manufacturing sector. In addition, a number from the service sector – transportation and storage, retail and wholesale trade, and communications – have felt the effects of technological change.

By contrast, some industries have been positively affected by technological change or have experienced minor negative effects. Foremost among them are services to mining, which includes the oil and gas industry – reflecting the rapid resource and energy developments in the 1970s. In this industry, transfers of some consulting business from resource-based firms to service companies may explain this technologically induced labour-augmenting effect. Most other industries having had this sort of technological effect involve services, which have grown substantially over the past two decades. Wholesale and retail trade have been less affected than the national average in relative terms – with labour saving of 7 per cent and 4 per cent, respectively – but, since they are labour-intensive industries, the impact of technology has displaced a large number of persons – 34,000 and 53,000, respectively. The introduction of technological devices to control inventories, to facilitate cashier work, and to prevent theft has evidently had labour-saving effects in the larger retail outlets.

The Counterbalancing Demand Effect — Obviously technological change has not been the only element to affect the level of employment. Demand – either intermediate or final, domestic or external – is crucial, forming the basis for the development of any industry. In fact, employment decreased in only seven out of thirty-nine industries – five manufacturing industries, metal mines, and agriculture – during the 1971-79 period. But in all of them, the technological displacement effect was offset to some degree by rising demand. For the total commercial economy, growth in employment was 28 per cent – or 3.2 per cent annually – despite a negative technological impact of 8 per cent. Thus the uniquely demand-pushed growth of employment was 39 per cent – or 4.2 per cent annually. These figures suggest that technological change slowed the growth of employment by about 1 per cent annually.

But this would be the case only if the two phenomena were separate and unrelated, which is obviously not the case, since the improved technology incorporated into production processes affects the relative prices of goods and services and, as a result, the composition and level of the demand. Also, in a relatively open economy, the improved technology enabled Canadian industry to meet the test of foreign competition; for without such technological adaptation, some very sensitive industries would have lost many more workers than they eventually did.

Not surprisingly, of the industries with the greatest absolute amount of employment growth attributable to increased demand, seven are service industries, where new technology produced the least labour saving. By contrast, the industries least affected by the changing demand for employees tended to be light manufacturing industries and mines.

In the face of rising or falling demand, or technological adaptation, an alternative to hiring or releasing workers would be to adjust the amount of hours worked. Apart from the gradual reduction common to all activities, however, such adjustments tended to be

seasonal or cyclical in the various industries examined. There was little evidence of specific efforts to offset the employment losses linked to the introduction of new technology by reducing hours of work.

The Unemployment Experience in Two Industries — We also compared the employment and unemployment experience of workers in industries most and least affected by technological change and job displacement: the electrical products industry was among the most affected; the rubber and plastic products industry was among the least.[8] Both industries are concentrated in Ontario and Quebec and had performed well during the 1970s, showing strong increases in production. Both experienced employment growth over the period; but because of the introduction of labour-saving technology, productivity performance was greater and employment growth slower in the electrical products industry than in the rubber and plastic products industry. In both industries the shares of managerial and professional employees and of those working directly in the fabricating and assembly process grew, whereas those of clerical and sales and of material handling occupations declined.

We were able to compare the unemployment experiences of workers in both industries for the period from 1975 to 1981. Not surprisingly, in both industries those workers who were laid off or who quit had low seniority – almost all of them had less than three years' experience and most of them, less than one. As a result, women and young workers, and particularly those in blue-collar fabricating and assembly jobs, were most adversely affected. This was especially true in the electrical products industry, where technological change and displacement were most evident. In this industry, too, there seemed to be a substantial amount of churning of personnel; two-thirds of the separations were layoffs, and almost half of the unemployed returned to work with the same employer. In the rubber and plastic products industry, fewer separations were due to layoffs, and despite stronger overall employment growth in the

Table 5-4

Impact of Technological Change on Employment for Selected Occupational Groups, Canada, 1971-79

	Total employment change	Employment change caused by technological change	Relative impact of technological change[1]
	(Thousands)	(Thousands)	(Per cent)
Occupations with the most displacement:			
Sales, commodities	129	-102	-13
Other farming, horticultural, and animal husbandry	-29	-96	-31
Farmers	-20	-84	-28
Other construction trades	49	-62	-13
Other clerical and related	9	-62	-26
Elementary and secondary school-teaching and related	35	-57	-19
Material handling and related, n.e.c.	12	-56	-22
Metal machining	-2	-40	-32
Stenographic and typing	60	-36	-11
Motor transport operating	51	-36	-12
Occupations with the greatest gains:			
Other managers and administrators	194	148	94
Bookkeeping, account-recording, and related	203	89	23
Food and beverage preparation and related services	139	51	18
Fabricating, assembling, and repairing - wood products	16	10	40
Other medicine and health	27	9	18
Other teaching and related	25	9	18
Mathematics, statistics, systems analysis, and related fields	14	7	29
Social work and related fields	10	6	60
Farm management	11	6	23
Performing and audiovisual arts	11	6	32

1 Employment change caused by technological change divided by employment required for 1979 output, using 1971 technology.

SOURCE Sunder Magun, "The Effects of Technological Changes on the Labour Market in Canada," Paper presented to the Canadian Economics Association, Guelph, May 1984.

industry, fewer than 30 per cent returned to work for their former employer. In both industries, however, adults tended to return to their former employers more than young people, and women generally more than men. The average duration of unemployment for those most affected by technological displacement was marginally lower than for those from the least-affected industry and not significantly different from the average period of 16 weeks reported for unemployed Canadians in general.

While it is too early to say whether these partial and preliminary findings are representative, they suggest that the unemployment associated with technological displacement tends to reflect the profile and pattern of unemployment generally, hitting mainly the young and least experienced, lasting not much longer than for other causes, and resulting frequently in rehirings.

The Occupational Breakdown — The method used to assess the impact of technological change on industries was extended to measure occupational displacement attributable to new technology. Using the 1971 and 1981 censuses, changes in employment in occupations were distributed proportionately over the 1971-79 period (Table 5-4).

Only a few occupations experienced employment losses over the period, and in almost all cases, the positive effect of demand more than offset the negative impact of technological change. Among the occupations most affected, only farming occupations (other than farm management) and metal machining occupations experienced an actual decline in numbers. Employment in the other occupations grew, sustained by overall economic demand. This was especially evident for service occupations such as sales, stenographic, and typing occupations. Indeed, nine out of the ten occupations benefiting the most from labour-augmenting technological change were service occupations. For them, technological progress was a major factor in their growth.

The Overall Effects — We have seen that technological change is continuous, directly affecting the structure of the production process and changing the role of the labour market in the allocation of human resources. As we look ahead, what new technologies can we expect? Are present concerns about their impact on employment exaggerated by today's high levels of unemployment and by the public visibility of new technology?

Major Sources of Future Technological Change

Undoubtedly, almost all sectors of the economy will be affected by the many, new scientific and technological developments. Highly visible technologies include microelectronics, computers and communications (informatics), biotechnology, and advanced manufacturing. In microelectronics, improvements are continuing at an exponential rate, spurring development of computer, communications, and manufacturing technologies. Similarly, breakthroughs in biotechnology are making available new products and processes in many areas, including health care, petrochemicals, and mining, to mention but a few, fueling fears of widespread changes in job and skill requirements. Here we consider only two of the most prominent areas of potential labour displacement: computer-aided manufacturing and informatics.

Computer-Aided Manufacturing

In the manufacturing sector, the increasing automation of capital equipment based on microelectronics and semiconductor technology is leading to significant changes in manufacturing. In particular, the application of CAD/CAM (computer-aided design and computer-aided manufacturing) is spearheading new production concepts, systems of production control, and machine use and inventory control, which together will have a much greater impact on productivity than did the introduction of many single-purpose machines in the past.

The essential difference between some of the computer-aided manufacturing elements and the special-purpose machines is that the latter are relatively rigid whereas CAM technology offers flexibility because it is reprogrammable. Special-purpose machinery suitable for the high-volume production runs used in processing industries is expensive to modify in order to introduce product changes; CAM technology generally is not. Variability in some CAM systems means that they are suitable for small- or medium-volume production, where there may be a need to incorporate frequent product changes.

The industrial robot is perhaps the most visible element of CAM.[9] At present, investment in industrial robots is a small part of total industrial modernization. But because an industrial robot is limited neither to product nor to industry and because it can be reprogrammed, it is relatively immune to obsolescence. Usually robots are a direct replacement for human labour, and over the long term some fear they may lead to significant displacement.

At present, robots are employed mostly in work positions that are hazardous or monotonous, or that pose long-term health risks. They are currently used, for example, in joining, heat treatment, various forms of assembly work, die-casting, spot and arc welding, spray painting, stamping presses, and forging. And

the scope of their activities is constantly widening, as newer and more intelligent robots with greater flexibility are introduced.

Why are CAM and industrial robots being adopted so rapidly? One reason is that today's manufacturing concepts are de-emphasizing standardization and assembly-line techniques in favour of more production variability, which facilitates quick adoption of engineering changes and easy adjustment to changes in consumer demand. For many companies, the increase in labour costs and the failure of current systems to generate additional productivity gains have stimulated interest in flexible automation. Robot prices are remaining fairly constant – within the wide range of $25,000 to $150,000, according to their technical capacities – and in some cases their prices are declining; as they become able to do an ever-widening array of tasks, investment in them will become increasingly attractive. They can also help to overcome the problem of skilled labour shortages.

Still, not all enterprises will soon have robots. The lack of knowledge of how robots can be used, particularly among small and medium-sized enterprises, is one factor that is slowing their diffusion. Software design is still a major constraint in their development. Cost is also a problem, given that their introduction is usually predicated on additional systems, conveyor installation, and start-up expenses that virtually double their initial price and require almost total reorganization of a factory. A further factor inhibiting demand, in Canada particularly, has been the shortage of engineers and technicians with experience in CAM and robot applications.

But the impact of industrial robots will not be the same across all industrial sectors. Many process industries, such as chemicals, petroleum refineries, pulp and paper manufacturers, and food processing enterprises, are already highly automated. While there may be scope for further, or more efficient, automated systems in these industries, this is unlikely to be achieved through the use of robots except in certain situations. Other industries that robots have already penetrated tend to be highly mechanized. These include the manufacturers of fabricated metal products, machinery, electrical machinery, and transport equipment. Even in large enterprises, such as those in the automobile industry, flexible automation (CAM) is enabling producers to move away from rigid mass production methods, such that the minimum efficient scale can be lowered and technological changes introduced more easily.

Another advantage of robots in industry is that they ensure better quality control and consistency, lessen the need for large numbers of quality inspectors, provide the flexibility to cope with temporary peaks in production, increase management control, and reduce handling time. By 1990, sensory techniques will have been developed to enable robots to approximate human capability in assembly processes; and U.S. experts predict that nearly half of the final assembly of automobiles will then be undertaken by programmable machinery. Indeed, it is precisely in assembly activities that the most rapid growth in the use of robots is anticipated, although even by 1990 their use will still remain relatively modest in relation to all potential assembly jobs in manufacturing. Nonetheless, there are clear examples for the future. In Japan, for instance, Pioneer expects that by next year 90 per cent of the electrical components for its audio and consumer electronics products will be assembled by robots.

For the one-third to one-half of Canadian manufacturing industries that use batch production methods – relatively short production runs – the potential benefits of robots are significant. In batch manufacturing, actual production sometimes takes only 5 per cent of the total time required to produce an item; the remaining time is spent on set-up and assembly. The use of computer-based automation and robots in piece handling and tool changing, for example, substantially increases the speed of production, reduces inventory requirements, and results in higher total output and reduced unit fixed costs. Although not necessarily restricted to small and medium-sized enterprises, batch production is particularly important in sectors such as metal working, engineering, and plastics, where small and medium-sized firms are often dominant. The increased flexibility of limited-run output often enables subcontracting firms to grow into primary suppliers.

The overall potential of CAD/CAM technology to displace labour is of current concern to many. In the United States, it has been estimated that 7 million jobs, or about half of all manufacturing operatives, may ultimately be affected. These include assemblers, inspectors, testers, production painters, welders, packagers, machine operators, and others. This figure must be put in perspective, however. Adoption of these CAD/CAM technologies will be a gradual process, led by the large firms, since the introduction of automation in a small factory is more disruptive and carries a higher risk than in a large factory. Nevertheless, the potential benefits in quality and costs, as well as continued technological improvements, will contribute to increased demand for advanced manufacturing products in the coming years.[10] Rough estimates by the OECD, for instance, indicate that by 1990, about 3 per cent of jobs in Japan and Sweden could be affected; 1 per cent in the United States; and less than that in the United Kingdom and France.

In sum, the use of computer-automated machinery and industrial robots can be expected to result in a restructuring of work skills and lead to changes in the work environment and to shorter hours, less shift work, and less overtime. Unquestionably there will be a reduction of some jobs and a displacement of labour as CAM is adopted. And some skills will be upgraded and retained. Of course, the employment displacement effects of robots and computer-automated equipment must also be compared with the jobs they generate. Studies in Europe indicate that the number of jobs created to produce, maintain, and repair CAM equipment does not match the number of jobs displaced. Indirectly, however, the much higher productivity creates additional real income, which in turn encourages consumption, investment, and the creation of many additional jobs. These, however, are difficult to estimate.

Clearly, though, there are implications for labour training requirements, including white-collar workers and particularly software engineers. The changes in the structure of employment will include an increase in the skill levels required of technicians and engineers, the use of less-qualified labour in some functions, and the obsolescence of other occupational categories.

Informatics

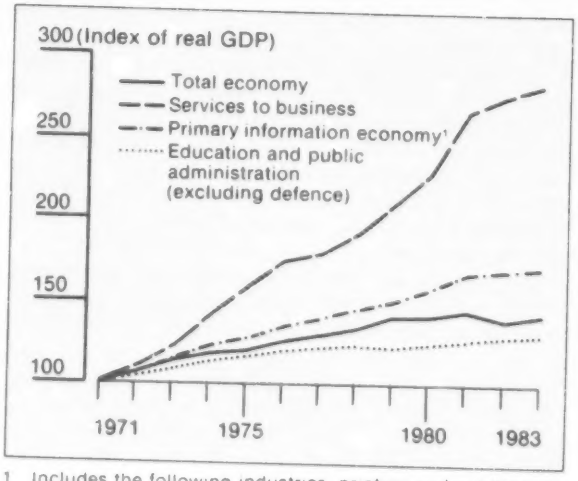
Informatics is the marriage of information processing and telecommunications technology. As such, it is the basis for office automation and the anticipated "office of the future." The rapid rate of development of the underlying microelectronics technology has created exponential rates of improvement in the performance of electronic products since the 1960s and concomitantly reduced their price. This has led in turn to the current availability of relatively inexpensive information-processing products such as word processors and personal computers. Since improvements in informatic products are expected to continue well into the next decade, their use will become commonplace during this period.

These developments will lead to the implementation of integrated office automation systems to support multifunctional work stations, providing personnel with a variety of tools, such as financial modeling systems, electronic spread sheets, reporting systems, and word processors. Such tools, combined with access to administrative data, improve efficiency in filing (electronic filing), in the accuracy and timeliness of management information, and in the preparation and revision of documents and correspondence.

Canada is fast becoming an information-intensive society. The information economy now accounts for approximately one-third of our gross domestic product.[11] Two of the fast-growing information areas are financial and other services to business management (Chart 5-6). By contrast, education and public administration have been growing at much slower rates. Significantly, also, growth is occurring in the private sector rather than the public sector.

Chart 5-6

Growth of Various Sectors of the Economy, Canada, Selected Years, 1971-83



1 Includes the following industries: printing and publishing, office and store machinery manufacturing, radio and TV manufacturing, communications equipment manufacturing, instrument manufacturing, communication, wholesalers of electrical machinery, radio and TV stores, bookstores, banks, brokers, insurance carriers, insurance and real estate agencies, education, movie theatres, production and distribution services to business management, and public administration, excluding defence.

SOURCE The Canada Consulting Group Inc. *The Information Economy*. A report for the Ontario Ministry of Transportation and Communications, May 1984, and Statistics Canada.

With the decreasing price and increasing efficiency of microelectronic equipment, there are sound economic reasons for substituting or complementing office labour with computers and related terminals. Historically, the typical office worker has been supported by substantially less capital equipment than the average factory worker, and the office sector has been marked by slow rates of productivity increase and consequently rising unit labour costs, despite the relatively low wages that many office

workers earn. Now microelectronic equipment is rapidly altering such repetitive office work as billing, accounting, routine clerical work, and data processing. The use of standard word processors, visual display units, teleconferencing, and other forms of direct communication means that memoranda, messages, and designs can be circulated instantly with little or no human intervention. Future office workers may well be complemented by equipment worth five times that with which they now work. Indeed, according to a recent report, over 40 per cent of office jobs could be standardized and 25 to 30 per cent automated.[12]

The effect of microelectronics on employment will depend crucially on the speed of its diffusion. How fast diffusion occurs will depend on relative costs and on the awareness among management and small businesses of the new technology's range of applications. In some areas where there are shortages of skilled workers, the new technology could be readily adopted; in others, there is still a wait-and-see attitude, since it may not be clear whether the demand for some products warrants the introduction of sophisticated information systems. Moreover, while the price of computers and other hardware has been diminishing rapidly, the complexity – and often the price – of software instructions has been increasing, slowing the pace of diffusion. In the case of robotics, where the amounts of capital to be invested are considerable, the rate of diffusion is likely to be relatively gradual. In the office sector, which is relatively thinly capitalized, the sales of microcomputers and other new office equipment have been quite rapid. This does not necessarily mean that many office workers are being displaced, although this may be the case in individual sectors. What it does mean is that the content of many jobs is being altered and upgraded; productivity is being improved; and new hirings for traditional jobs are being sharply curtailed. Indeed, at present, the adoption of automatic equipment has not resulted in a significant reduction of staff, except in a few areas such as banking, insurance, and financial services.

Clearly, informatics and office automation technology have the potential to change significantly the content of jobs, the skills required, and the organization of activities in the work place. An immense amount of information can be generated and transmitted in much less time than ever before, altering the content of certain occupations. With few exceptions, the concept of the integrated electronic office is still some years away. Nevertheless, the rate of change in the equipment and software has been so rapid that the systematic integration of people and machines is still evolving.

The application of microelectronic technology has the most impact on activities – such as the creation, processing, storage, and transmission of information – in which women are highly concentrated. In contrast, the upper echelons of information occupations are currently dominated by men, who constitute the majority of scientists, engineers, senior and middle management, and professionals. In banking, insurance, and public administration, for instance, there is evidence that the introduction of the new technology has already encouraged specialization of tasks, along with some reduction in the required range of personal skills, principally among the clerical occupations held mostly by women. At issue, therefore, is whether the additional jobs that will emerge in response to the new technology and as a result of higher productivity and higher incomes will coincide with the skills and capabilities of those persons, perhaps women in particular, who will be displaced. If they do not, there could be severe social consequences for female independence and family income.

Although the impact of technology on employment has been muted by the moderate rate of diffusion and, in many cases, the shedding of labour has been accomplished through normal turnover and attrition and the increased use of part-time labour, significant changes are in the offing. Voice-responsive direct interaction with computers is now becoming feasible, limited only by minor technical problems and costs, and new applications for both microelectronic hardware and software are becoming available almost daily. With many older skills, such as shorthand, becoming redundant, substantial adjustments and retraining may be necessary just to keep pace. Thus while the new technology will likely enhance and diversify many occupations, there is a danger that some of the effort and mental activities being displaced by electronics may be replaced by work organized around highly specialized routine activities, with some jobs becoming highly structured, controlled, and depersonalized.

The application of microelectronics to both the office and the factory floor could potentially cause severe repercussions in the labour force if implemented rapidly. A moderate rate of introduction of new technology is likely for several reasons, however. There is a high capital cost associated with the implementation of new systems and in some cases a risk of failure. Furthermore, in complex office systems or automated factories, significant changes to current processes and procedures are required. Consequently, lengthy planning and implementation phases are required. Additionally, there is a shortage of people with the skills, systems expertise, and knowledge required to design and implement new techno-

logical processes, automated offices, or automated factories. As a result, Canada is likely to experience gradual technological evolution rather than a technological revolution.

Future Occupational Changes

Projections on employment opportunities over the medium term and into the next decade are always tenuous, particularly when they involve specific occupations. Guided by the past, substantial changes can be expected to occur in a host of industrial sectors, depending on changes in relative prices, the development of new technology and of new information and organizational processes, and the opportunities created by additional consumer and corporate demand. Any specific projections must, therefore, embody a view of the international and domestic rate of growth and development, shifts in industrial structure associated with international and domestic competition, and shifts in occupations and occupational skill mixes within industries.

How, and at what pace, these developments will occur cannot easily be predicted, and many of our projections are based on judgments associated with the current mix of working skills and equipment and organization, and not on those which may evolve in the future. Nonetheless, with the knowledge that can be derived from CANDIDE simulations about the likely growth prospects of specific sectors of the Canadian economy over the next decade – bearing in mind that those estimates become more fragile, the further into the future they go – we can, with a certain amount of confidence, anticipate where many of the new jobs are likely to emerge and where other occupations are likely to fall into decline.

Overall, future economic growth in Canada is projected to be substantially slower than in the 1960s and early 1970s but somewhat stronger than in the late 1970s and during the recession of 1981-82. This will be associated with slowing population growth and, in particular, with weakening labour force growth as the population ages. Extending the projections developed in Chapter 1 into the 1990s, real GNE growth over the period is expected to average around 3 per cent annually; labour force growth is forecast to slow to 1.5 per cent annually; and employment growth is projected to be sufficiently strong to effect a gradual, but significant, reduction in unemployment. Unlike in the years of maturing baby boomers, the economy will experience the impact of the subsequent "baby bust" through declines in the population of postsecondary school age and new labour force entrants. The aging of the population will lead to fewer housing starts as the need for additional shelter abates. Barring major unexpected developments at home or abroad and ignoring inevitable cyclical fluctuations, employment growth is estimated to average close to 2 per cent annually over the period, with the strongest growth being in the energy-related and nonresidential construction sectors. The slowest growth is forecast in fisheries, forestry, manufacturing, and trade. Employment in transportation and communications, finance, insurance, and real estate; and other services, including health, hospitality, and business and personal services, will grow at roughly the same rate as overall employment.

These projections say relatively little about the pattern of occupational growth among the low- to medium- and highly-skilled, or the blue-collar and white-collar office jobs, since much depends on the occupation itself. Some, such as secretarial and clerical jobs, are dispersed over a wide mix of sectors. Others are quite industry-specific, such as farm workers to the agricultural industry and nurses to the health services sector. Moreover, while some occupations may be growing slowly, their absolute size within the economy means that their share of total job growth may be substantial. Others – for instance, computer systems analysts and programmers – while growing very rapidly, are building on a relatively small base and contribute only marginally to the new jobs that will emerge.

While occupations requiring a university degree or, more particularly, specialized postsecondary technical training – are expected to increase significantly, many occupations that are more conventional and do not require postsecondary training are also expected to expand. The rapid expansion of high technology will spur an increase of scientists and engineers, as well as a demand for lesser-skilled technicians and aides.

Projections of the interrelationships between technological change and industry and occupational employment are currently more highly developed in the United States than in Canada.[1] These U.S. projections point to the importance of many traditional skills (Table 5-5). Clearly, the 10 occupations accounting for the largest amount of job growth – about 25 per cent of total growth – are dominated by activities that do not require any or much postsecondary education. Indeed, despite the widespread concern expressed in some quarters about the impact of microelectronics on the numbers of clerical workers, their numbers as a proportion of the labour force are expected to remain roughly constant throughout the decade. By the same token, the number of workers in high-technology occupations – engineers, scientists, mathematical specialists, technicians, and computer specialists – will grow at

close to double the average rate for other occupations; however, their numbers are small in relation to the total employed population.

Somewhat comparable projections are being developed by Employment and Immigration Canada through its Canadian Occupational Projection System (COPS), and much the same occupational employment profiles seem to be emerging from that exercise. Though still tentative, the COPS observations are instructive:

- Job growth is expected to be fairly diverse but most is concentrated among a few occupations, including those which are both the traditional and the largest occupations in the country. Among them are secretaries and stenos, bookkeepers, truck drivers, financial officers, and janitors.
- Most of the main occupations contributing to growth are not specific to one industry but, on the contrary, widespread among many sectors, giving them a better resistance to business cycles.

Generally the slowest-growing occupations are associated with declining industries. This is especially true for the textile and the food-processing occupations, some of which have already been adversely affected by technological change. Others in that situation include office machine operators, watch and clock repairers, and radio and television repairers.

Some occupations will benefit from technological change. Among those are systems analysts, computer operators, and petroleum engineers. But they do not constitute a large share of total employment.

On balance, when looking at employment growth by occupation the evidence collected so far indicates that continuity is the main feature. Certainly, technology plays a role in shaping the pattern of employment growth, perhaps not only in the most visible way – the emergence of totally new occupations combined with the decline of old ones – but more through changes in the functions, expertise, and work instruments within occupations.

In the long run, as the new technologies expand into the various spheres of economic activity, the profile of a great many occupations will alter. The production of new technology is very skill- or capital-intensive and does not require the same amount of labour input as older technologies. Often the application of the new technology to the manufacture of durable and semidurable goods replaces human labour. And in contrast to some of the traditional technological innovations, which mainly affected production activities, newer technological developments are penetrating the service industries.

The many indirect effects, which are often more difficult to pinpoint, will also have considerable impact on employment. The substantial increases in productivity expected as the new technology is adopted, increased output, and the development of new manufacturing techniques will lead to rising personal incomes and additional expenditures, savings, and jobs. The main questions then become: How will this income be distributed; and how will the structural changes that follow affect the concepts of lifelong careers and employment security?

Table 5-5

Occupations Grouped According to Projected Employment Growth in the United States, 1982-95

Largest-growth ocupations[1]	Fastest-growing occupations	Rapidly declining occupations
Building custodians	Computer service technicians	Railroad conductors
Cashiers	Legal assistants	Shoemaking machine operators
Secretaries	Computer systems analysts	Aircraft structure assemblers
General clerks, office	Computer programmers	Central telephone office operators
Salesclerks	Computer operators	Taxi drivers
Nurses, registered	Office machine repairers	Postal clerks
Waiters and waitresses	Physical therapy assistants	Private household workers
Teachers, kindergarten and elementary	Electrical engineers	Farm labourers
Truckdrivers	Civil engineering technicians	College and university faculty
Nursing aides and orderlies	Peripheral EDP equipment operators	Roustabouts
Sales representatives, technical		

1 Occupations accounting for the greatest number of additional jobs
SOURCE United States Bureau of Labor Statistics, *Monthly Labor Review* (November 1983)

Conclusion

Where do these observations and projections lead us? First, unemployment is Canada's most pressing problem. Despite the recovery, it has not diminished at nearly the rate experienced in the United States, and current projections call for only a modest diminution over the next five years unless the issue is addressed head on. Second, while much unemployment is a result of insufficient demand, much is still structurally based. Third, while there is some evidence that with the aging of the baby boomers there is diminishing pressure on the unemployment rate from the demographic composition of the population, many other social elements, such as the growing numbers of family members working and relatively generous income maintenance provisions in the unemployment insurance system, still contribute to substantially higher levels of structural unemployment than in the 1950s and 1960s. Fourth, while much of the unemployment experience is associated with high turnover, particularly in the relatively low-paid services, the growing numbers of longer-term unemployed give cause for worry. Many among these are mature members of the work force who may require retraining if their specific tasks are being phased out by technological change. Fifth, the pace of technological change and diffusion will affect jobs and the work place but probably should not cause undue worry. Some occupations will be eroded, but many will be enriched; the process will be evolutionary, in line with market-determined decisions, with the indirect demand-induced employment growth, particularly in many traditional occupations, more than offsetting the loss of jobs as a result of technological change.

In sum, while technological change is not expected to cause revolutionary disruptions in employment patterns, demand deficiencies and other structural unemployment problems remain serious. Governments must, therefore, strengthen their resolve to put Canada's unemployed to work.

6 Targets and Guideposts

The clear message in this Review is that the Canadian economy is now much stronger than it was at this time last year. Consumption expenditure is up, export sales are expanding, labour productivity is much improved; and the cash flow and fiscal balances of Canadian firms are healthier. Looking beyond the cyclical pause that is anticipated later next year and on into early 1986, the medium-term prospects offer grounds for optimism. Businesses have gone a long way towards putting their financial houses in order, and corporate management is beginning to turn its attention to new investments to meet expanding markets domestically and abroad.

The unexpectedly rapid rate of the U.S. recovery has proved favourable for Canada, stimulating production and leading to large trade surpluses, though the continuing persistence of a huge U.S. federal deficit and high real interest rates are genuine cause for international concern. A temporary slowing of the U.S. recovery will likely lead to some easing of that country's very large current account trade deficit (now financed mainly through foreign borrowings), some depreciation of the U.S. dollar, and some lowering of real interest rates. This should, in turn, improve the investment climate worldwide.

Abroad, trade and financial intermediation with the Third World, and particularly with the Pacific Rim countries, will take on greater prominence. The latter have already displaced OECD Europe as the second most important area for Canadian trade; and were it not for the application of national restrictions, they could be even more prominent.

On international financial markets, the heavy foreign indebtedness of most Latin American countries and many other developing nations – combined with the exceptionally high value of the U.S. dollar, in which their debt is denominated, and high real interest rates – continues to generate widespread uncertainty. Many of these countries may require rescheduling for some time to come, since the bulk of any trade surpluses they might be able to achieve will be needed simply to pay the interest, to say nothing of the principal. Indeed, as indicated in the OECD's recent *Economic Outlook*: ". . . a lasting resolution of the international debt problem will require that the economies, and in particular the exports, of the heavily-indebted countries grow markedly faster than the prevailing rate of interest. Achievement of this would be helped by an easing of world interest rates and in addition will require not only that the recovery in OECD countries is sustained but also that access to OECD markets is maintained and enlarged."[1]

The participation of Canadian banks as international lenders reinforces Canada's financial interest in world recovery and in the progressive reduction of tariffs and the dismantling of some of the newer protectionist devices adopted by GATT member nations. In the longer run this means that Canada must support international efforts that encourage developing nations to retain and stimulate savings and to engage in investment programs that reflect prudence and profit. Private lenders, including the banks, have an enormous stake in the emergence of developing countries, but they must also exercise caution in their management of new loans. New IMF and World Bank initiatives in areas such as co-financing and lending would also help to strengthen the economic infrastructure of developing countries.

Domestically, as we noted in Chapter 1, Canada's economic recovery, while it has been quite respectable, has been less vigorous than that in the United States. Until now, federal deficit spending, increased consumer spending, and exports abroad accounted for virtually all of the fiscal stimuli that have helped the economy to recover from the 1981-82 recession. The difference between the strong recovery in the United States and the modest recovery in Canada has been mainly due to the lack of private and public investment spending in this country.

Governments have been constrained in their spending by the high level of transfers, the burden of servicing the public debt, and their reluctance to increase taxes; private investors have been unwilling to invest because of lack of confidence in the recovery and have been constrained by high interest rates, cash flow difficulties, and their own burden of corporate debt servicing. This lack of domestic investment has limited the growth of aggregate demand and has kept Canada's unemployment rates significantly higher than those in the United States. Except for this year's increase in the purchase of automobiles, consumers have been very cautious in Canada; paying down mortgages has had priority over discretionary spending. The present level of unemployment in Canada is hitting some groups more than proportionately; and with the pace of technological change

and microelectronic adaptation, continued displacements of personnel can be expected. Vigorous economic growth must offer alternative demands for workers.

The dilemma confronting the federal government is apparent. Over the course of the 1960s and 1970s, Canadian governments identified clear social objectives and decided that programs designed to achieve them should be administered collectively. These social programs, such as unemployment insurance, pensions, and guaranteed income supplements, were intended to provide greater security and opportunity for persons outside and inside the labour force. They now appear to constitute entitlements, which Canadians would be loathe to relinquish. But almost inevitably they entail government expenditure commitments that keep rising. Yet over the past decade a variety of decisions that kept the marginal rates of corporate and personal income taxes from growing commensurately, the transfer of tax points to the provinces, and slow growth, have all eroded the federal government's revenue base. These structural revenue shortfalls were then exacerbated by the recession. Faced with unemployment rates that reached a postwar peak, the government had little choice but to borrow. And while Canadian individuals and institutions have been increasing their savings relative to GNE, they have generally been substituting holdings of public debt for private.

The persistence and size of the federal deficit have had mixed effects on employment. On the one hand, the deficit has provided some fiscal stimulus; on the other, the increase in interest payments as a proportion of total federal expenditures has severely limited other spending options that could create jobs. Clearly the deficit has contributed to the erosion of business and investor confidence and has thus slowed the expansion of jobs in the private sector. Of course, the federal government is not alone in its capacity to reduce unemployment; both private and public effort must be enlisted by federal, provincial, and local levels of government.

The new government has the opportunity now to work diligently to put the federal fiscal house in order. An important determinant in this process will be the climate of economic and political activity. The new government has committed itself to creating a more favourable environment for domestic and foreign investment in Canada through, among other things, a rapprochement with business, labour, and other levels of government. Success in its efforts may well foster renewed confidence, not only in business but also in households, and thus set in train a sequence of economic activities that go well beyond those anticipated in the base case projections in Chapter 1 – in effect, tilting the outcome towards that described in the optimistic scenario.

As we look at the new opportunities for action, let us recall our base case projections:

- Assuming there is no major change in the economic climate or in the policies of the federal government, the growth in GNE expected for the balance of the 1980s will be close to 3 per cent, with a pause in 1986 resulting from a slightly earlier one in the United States.
- Although growth in employment will be relatively strong, unemployment will remain at double-digit levels for most of the period.
- Provided that no special action is taken to reduce it, the ratio of the federal deficit to GNE will remain at about 5 per cent. This means a rising debt-service load, despite the pattern of relatively strong growth in the economy.

These projections were predicated on the continuation of policies initiated under the old government. The new government can now initiate a clear change in policy direction, aimed towards creating favourable economic prospects.

But if, in order to reduce the deficit substantially and quickly, the federal government were to undertake a massive unilateral tax increase or cut in expenditures, or some combination of the two, both, the domestic short-term repercussions could be severe, as real incomes would be reduced and unemployment would be higher. Accordingly, we suggest that any program to reduce the deficit in Canada should be carried out over a number of years, perhaps over the same time horizon as our projections.

Equally, the government must address the issue of unemployment. It has already announced a $250-million extension of the Canada Works Program. But further initiatives may be necessary if private sector spending fails to generate additional employment. This might entail redistributing expenditures towards job-creation and/or skill-upgrading programs, while restraining expenditures in other areas, and gradually increasing taxes. In the general design of such a program, more emphasis might be placed on the service sector of the economy, with small business, youth, and women being the major targets of financial support.

Here we indicate the possibilities that exist for resolving some of the key economic issues in Canada. The complete resolution of these issues will depend upon both public sector and private sector initiatives, and particularly on the restoration of business confidence. And the success of any Canadian program designed to deal directly with

these problems will be substantially influenced by developments in international credit markets and particularly by the policies adopted in the United States.

A Possible Strategy

Using CANDIDE and the same assumptions developed for the projections in Chapter 1, we simulated what a combined effort to create jobs and reduce the deficit might mean for Canadian taxpayers, under the three alternative strategies described in Table 6-1. For purposes of the calculations, it is assumed that the initiatives would be financed entirely by increases in personal income tax rates (aside from the revenue-augmenting characteristics of the optimistic case underlying Alternatives 2 and 3).

Following the assumptions of the base case, to reduce the unemployment rate by one full percentage point to around 10 per cent in both 1985 and 1986 would require a two-year, $3-billion spending program. Continuation of such a program during the 1987-90 period would cost another $8 billion. If such a program were undertaken, some of the $3 billion in direct costs incurred during the initial two years would be offset by additional personal income (and other) tax revenues from the augmented tax base. In the 1987-90 period, however, some negative offsets over and above the direct cost of the program would cause a rise in the federal government deficit (Chart 6-1).

A program of this kind might be coupled with tax increases that would not only cover the direct costs but leave some room for deficit reduction. Alternative 1 describes this case. If, in combination with the jobs program, personal income taxes were raised by a total of 3 per cent in the first year and an additional 2 per cent in the second year, over the amounts projected in the base case, both the unemployment rate and the deficit position of the federal government would improve. In fact, during the first two years not only could the unemployment rate be reduced by one percentage point, but the federal deficit could also be lowered by about $1 billion in each year. It can be seen that with similar total tax increases of about 2.5 per cent per year for each of the years from 1987 through 1990, the deficit as a percentage of GNE would be cut in half by 1990, to near 3 per cent. For individual taxpayers this would mean an increase in the average effective personal income tax rate from about 14 per cent in 1985 to

Table 6-1

Implications for Canadian Taxpayers of Some Alternative Deficit-Reduction and Job-Creation Strategies

Base case: As described in Chapter 1.

Alternative 1: Involves a job creation program of $3 billion in 1985-86 and an additional $8 billion over the 1987-90 period, plus a tax increase averaging 2.5 per cent per year over the entire 1985-90 period.

Alternative 2: Same as Alternative 1 but also includes the assumptions associated with the optimistic case described in Chapter 1 and in the footnote to Table 1-2.

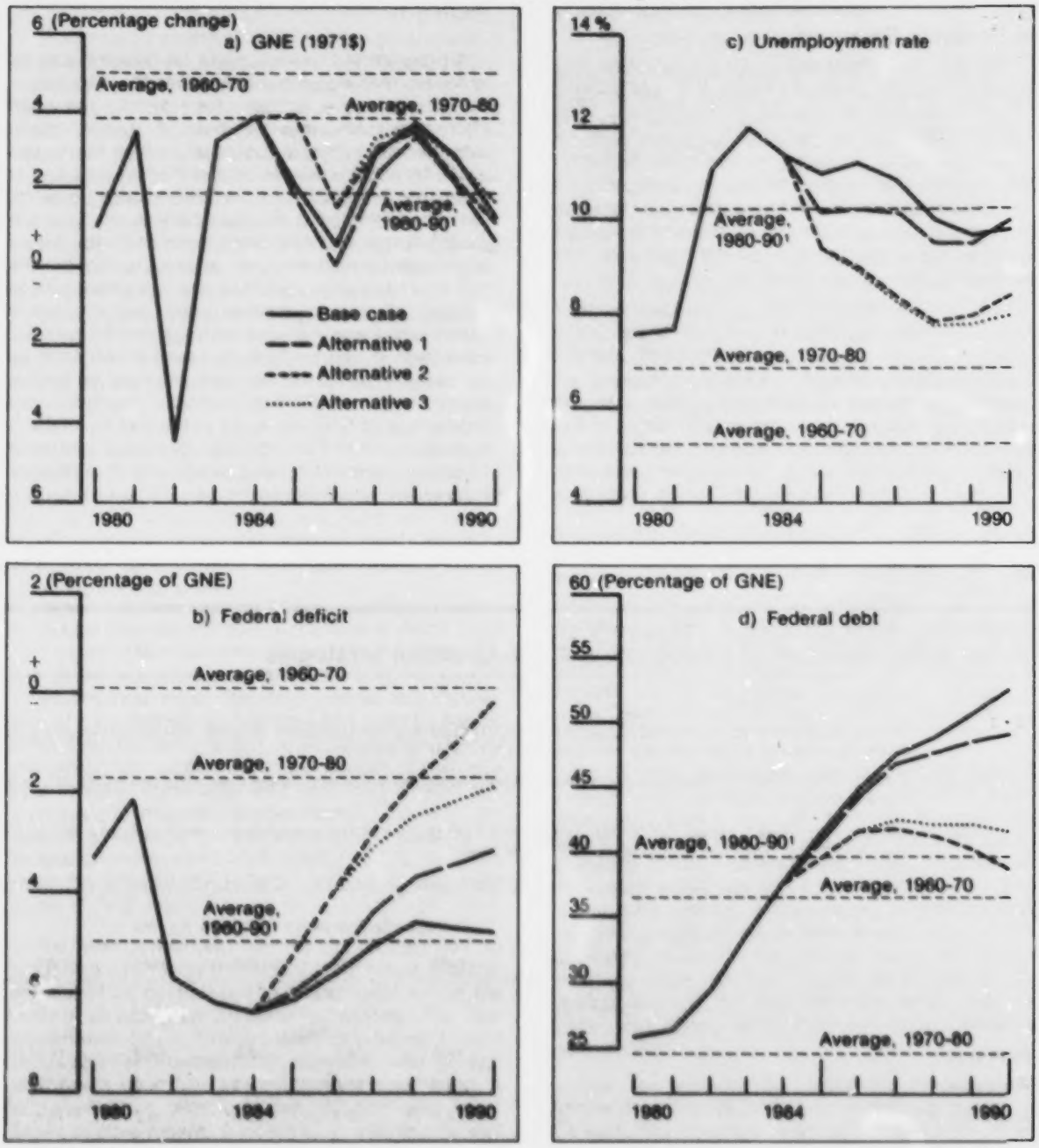
Alternative 3: Same as Alternative 2, except that the tax increase of 2.5 per cent per year is only implemented in 1985 and 1986 and is then held at the 1986 level for the remainder of the period.

	Average effective personal income tax rate[1]					
	1985	1986	1987	1988	1989	1990
	(Per cent)					
Strategy:						
Base case	14.0	14.2	14.1	14.0	14.2	14.3
Alternative 1	14.4	15.0	15.6	15.9	16.6	17.0
Alternative 2	14.3	14.8	15.4	15.6	16.2	16.6
Alternative 3	14.3	14.8	14.7	14.4	14.5	14.4

1 Personal income tax paid as a proportion of personal income, on a National Accounts basis.
SOURCE Economic Council of Canada, CANDIDE Model 2.0, July 1984.

Chart 6-1

Impact of Deficit-Reduction and Job-Creation Strategies, Canada, 1980-90



1 Actual and base case.

NOTE The alternative strategies are defined in Table 6-1.

SOURCE Based on data from Statistics Canada, and Economic Council of Canada, CANDIDE Model 2.0.

about 17 per cent in 1990 (Table 6-1). Given the total income base in 1990, such an increase in the tax rate would directly generate about $14 billion in additional federal revenue that year, compared with that of the base case. However, while the successive tax increases would measurably reduce the deficit, they would also dampen the growth of the economy, so that by 1990 unemployment would be back to double-digit levels despite the extra spending for job creation.

We have chosen to illustrate the impact of such a program if fiscal room were provided through additional tax revenues. But, of course, tax increases are not the only way to fund a job-creation and/or skill-upgrading program. Programs in other areas might be trimmed, or a combination of expenditure cuts, redirection of existing funding, and tax increases could provide the necessary fiscal room for such a program. The major economic effects of choosing another route would differ somewhat; but the magnitude of the resources needed to deal properly with the twin problems of unemployment and deficit reduction would be similar, as would the direction of change in the major economic aggregates.

Having examined the impact of this program within the framework of the base case, we now look at two alternatives under the assumption of a more favourable environment, as envisaged in the optimistic case of Chapter 1. This optimistic case presumes that a large number of the new jobs required to reduce the unemployment rate, and the substantial new revenues needed to reduce the deficit, would come not only from public sector initiatives but also from an economy in which the private sector had been strengthened.

Recall, now, that the optimistic case was based on stronger investment and consumption and strengthened export markets. Part of this strength would depend upon the U.S. government's resolution of its own deficit problem. If it were even partly successful, nominal and real interest rates would likely fall, thus encouraging stronger personal consumption and business investment spending, increasing overall economic, employment, and federal revenue growth; and reducing federal interest payments on the federal debt. If these events were to occur and if the Canadian government were to adopt a domestic program of the dimensions outlined above, then, as shown under Alternative 2, the deficit could fall below 2 per cent of GNE after 1987 and below 1 per cent of GNE in 1990. And by 1987, unemployment would be down to around 8 per cent.

Furthermore, with this optimistic case, if Canadians were willing to live with a federal deficit of, say, 3 per cent of GNE by 1990 – roughly the level of the late 1970s – then it would not be necessary to continue the upward movement in tax rates after 1986. As Alternative 3 demonstrates, a deficit of between 2 and 3 per cent of GNE could be achieved, along with a further long-run reduction in the unemployment rate. Cumulatively the job creation initiatives would cost about $11 billion, coupled with a 5 per cent tax increase spread over the first two years only. To the extent that the federal government funded the job creating initiatives from other expenditure savings, the magnitude of the tax increases would be reduced. But the amount or incidence of employment growth could vary.

In summary, more favourable circumstances that would enable Canada's unemployment rate to be reduced to between 7 and 8 per cent and the federal government deficit as a percentage of GNE to be cut in half by 1990 are clearly achievable. They presuppose, however, a U.S. policy package that would deal adequately with the U.S. deficit problem, leading in turn to lower interest and higher investment rates in Canada, stronger consumer demand supported by stable prices and credit conditions, direct job creation programs, and redirected, or new, fiscal resources equivalent to a federal personal tax increase of about 5 per cent, phased over two years and beginning in 1985.

These calculations are persuasive. They offer grounds for optimism. More and more U.S. observers believe that Congress and the Administration are about to take action to reduce their deficit. And some recent events in Canada suggest that stronger income flows in the private sector will reduce the need for draconian changes in the tax rate or in federal expenditures.

Nevertheless, these calculations also presuppose a combination of domestic and international events that, while quite possible, will require firm economic helmsmanship, renewed private initiative, and cooperation by labour and management. On the domestic front, the possibility of the federal government simultaneously reducing its deficit and unemployment clearly demands a mix of measures, subtlety of timing, and a perspective that extends well into the medium term. There are no quick-fix solutions. There can, however, be a common commitment to mutually compatible medium-term targets.

The Targets

Last year, in its Twentieth Annual Review the Council proposed a set of targets for government, labour, and management, to achieve optimal, medium-term economic activity. Targets and projections are distinguished from one another by both their

time horizons and the measures adopted by governments at home and abroad. While projections follow cyclical patterns and generally assume no major change in the fiscal and monetary policies of the federal government or in institutional arrangements within Canada, targets are independent of cyclical variations in the strength of the economy. Again, the targets are to:

- achieve a trend rate of employment growth of between 2 and 3 per cent annually so as to reduce unemployment to between 6 and 8 per cent of the labour force by 1990 – that is, to relatively full employment, consistent with nonaccelerating inflation;
- restore for Canada a trend rate of increase in productivity, as measured by real output per employed person, of between 1.5 and 2 per cent annually;
- keep the trend rate of annual inflation down to 5 per cent or less, recognizing of course that there will be variations in inflation rates because of international and domestic factors;
- encourage a rate of domestic saving high enough to contain Canada's average dependency on net capital inflows to about 2 per cent of GNE or less; and
- maintain the objectives and the substance of the existing social policies insofar as they provide affordable benefits to Canadians but improve the efficiency of their delivery systems and, where possible, fill the most urgent gaps in their application.

This year one more target has been added – namely to:

- reduce the size of the federal deficit gradually to an easily manageable level, bearing in mind the cyclicality of the economy, and thereby re-establish a sound fiscal relationship in the federal budget.

We advance no precise quantitative target for government deficits. This is because the federal deficit is simply the residual difference between the government's expenditure and revenue initiatives, adopted in the context of private spending and saving, which varies over time and through the course of a business cycle. We do not believe in a balanced budget for its own sake, since that runs counter to the federal government's responsibility to help stabilize economic activity around a favourable growth path. Although it is our view that the federal government should actively seek to reduce its deficit in both nominal and real terms, we are conscious that it is difficult to establish a precise ratio of public debt to GNE beyond which economic growth would be impaired. Other countries have, or have had, larger debt as a proportion of GNE, as has Canada in the past, and this has not inhibited their growth potential. Generally, however, the stronger a nation's real growth rate and the lower its real interest rate, the more it is able to manage its deficits and to afford high debt-to-GNE ratios.

Since most federal borrowing is of limited duration, with interest payable annually, most of the real burden of increases in the national debt – even deadweight, unproductive debt – is borne by that generation of taxpayers living in a country while the increases are taking place. This is particularly so for domestically held public debt – which, as we have seen, in Canada, accounts for virtually all of the federal borrowings. If the debt issue is used to finance investments in fixed or human capital and these investments generate additional reserves from which the debt can be serviced, the repayment burden may not be serious. It is another story if the debt issue is used in lieu of other revenues simply to finance current government expenditures – although even that may be justified if the alternative is higher unemployment, unused productive capacity, and bankruptcies. Difficult issues of wealth and income distribution can arise, however. A whole range of future taxpayers may have to pay higher taxes or receive fewer government services, or both, so that their government can service the debt that has been carried forward from the past and is likely to be held by a minority of citizens. In addition to such latent distributional problems, very high government deficits and debt-to-GNE ratios can have side effects that dampen real economic growth. Canada has not suffered any significant crowding-out of real economic activity from recent deficits, but it could in the future if the relative size of federal deficits is not reduced over the medium term.

There is, of course, an important time dimension in pursuing the saving rate target. In recent years, spurred by inflationary fears, Canadians have increased their savings to abnormally high levels, curtailing consumption expenditures. Historically, Canada's personal saving rate averaged between 6 and 8 per cent of personal disposable income, but during the late 1970s and early 1980s it rose to almost 15 per cent. Although it has since receded, we believe that there is room in the short run for a further reduction in the personal saving rate, and thus for more vigorous consumption, without impairing our longer-term target. Indeed, our optimistic scenario projects a drop in the saving rate to less than 9 per cent in 1985 and less than 7 per cent thereafter, effectively helping to double the overall GNE growth rate projected in the base case in 1985 and eliminating the growth pause in 1986.

The Council's position on social programs has centred on the recognition that they help to unify and harmonize the nation. We favour broad participation

in their benefits and their costs; and while it is true that they command a very sizable proportion of government expenditures, it is equally true that they rank high among the priorities of Canadians, and few would argue in favour of their elimination. In the long run, by reducing the burdens of poverty, insecurity, and lack of skills, they improve the vitality of markets even if in the short run there may be financial tradeoffs with other initiatives that stimulate growth. Moreover, by easing the burden of adjustment to economic change, they help to reduce pressures for protectionist solutions.

The pursuit of these targets calls for firm decisions by the federal and provincial governments and by management, labour, and the voting public. The federal government elected in September 1984 holds a new mandate to provide sound economic administration, which gives it greater freedom for change, even though it is encumbered with a fiscal situation that leaves limited room to manoeuvre in the short run. We urge that, in developing its immediate policies for economic and social renewal, a number of longer-run concerns also be addressed.

Harmonizing the Federal-Provincial Economic Effort

Of course, the federal government still exercises primary responsibility for the state of the whole economy – for its performance, for its commerce, and for the full employment of its resources. Through the Bank of Canada it holds sole responsibility for the nation's monetary policy. Beyond that, however, there are economic issues in every part of the country where fresh federal and provincial understandings and resolve can help to sustain economic growth.

As we saw in Chapter 2, excluding intergovernmental transfers, the greater share of government spending in many areas is carried out at the provincial level. Except for Quebec, the preponderant responsibility for the structure and collection of income taxes rests at the federal level; although, generally speaking, the other nine provinces determine their own take in terms of a flat additional percentage of the basic federal tax. Despite – or perhaps as a result of – the Canada Act, there is hardly an area of economic activity where federal and provincial administrative and regulative responsibilities do not intersect. The new federal government has made it very clear that it wishes to achieve greater harmony and trust between the federal and provincial governments. The Prime Minister will be meeting with provincial premiers to discuss the state of the economy, as a precursor to a national economic conference to be held early next year.

The Council has a history of interaction with provincial governments as well as the federal government, extending from its study of regional economic disparities, *Living Together*, through its study entitled *Newfoundland: From Dependence to Self-Reliance*, to its recent study of the four western provinces, *Western Transition*. In *Financing Confederation*, we examined issues related to federal and provincial fiscal arrangements, and at the request of First Ministers, we reported on the scope for regulatory reform in two publications, *Responsible Regulation* and *Reforming Regulation*. In these studies we identified a large number of areas where the combined efforts of both the federal and provincial governments, sometimes working with municipalities, could improve the performance and the quality of the resource base and the manufacturing and service industries. In a few months we shall be issuing a comprehensive report on Canadian energy policy and prospects; and, clearly, in that area too there will need to be close federal and provincial accord.

Our work with provincial governments assures us that Canadians will benefit from initiatives by both levels of government to cultivate greater understanding and cooperation. The Council organized national economic conferences in 1973 and 1974 and has a long background of providing assistance to federal and provincial parliamentary committees and task forces. By setting out mutually achievable economic targets and providing consistent projections and analysis, sector by sector, for consideration and debate by the participants, the Council can make a significant contribution to the harmonization process.

Structural Issues

In recent publications we have cautioned against a variety of measures that have crept into the economy at microeconomic levels, intended to shield certain sectors or activities from competition so as to preserve the activity and the economic security of their incumbents. These are evident in almost all facets of society and are natural to any democracy where political solutions can replace or shape market decisions. Often they can be justified on equity grounds, sometimes on grounds of economic efficiency. But when, as in recent years, productivity and economic growth falter and the economic pie expands at a diminishing rate, the struggle for shares can become more acute and more self-destructive. Some groups call for protective measures to reduce the risk of losing what they have already gained; some demand a larger slice for consumption today, funded if necessary by borrowing against tomorrow. Either way, unless the capital base is enhanced, growth is impaired, and inflationary pressures are encouraged.

In the broadest context, much of the vitality of the Canadian economy is built on the resource base and foreign trade, and we have supported the concept of freer trade, multilateralism under the General Agreement on Tariffs and Trade (GATT), and the additional funding of the International Monetary Fund to help the developing countries now labouring under the onerous burden of international indebtedness. Where other nations are trading fairly with Canada, we have urged the federal government to work with the provinces to promote measures to help industry adjust to trade competition, rather than aquiesce to demands for greater protection in the form of quotas, higher tariffs, or stricter Canadian-content rules. Equally, we see a need to work together to reduce various old and new forms of provincial protectionism – such as restrictions or regulations impeding the free movement of commerce or skills, or preferential treatment favouring a producer within the province over other lower-cost producers.

In reference to Canada's resources, we have urged policies of resource management, and of spending and taxing, aimed at more efficient harvesting and marketing. We have recommended that much greater emphasis be placed on economic criteria and on indirect costs in forest, fisheries, and water management. In the area of energy policy, we have supported the move towards world prices. For the forestry industry in British Columbia, we have recommended changes in harvesting practices, investments, and stumpage payments. In commercial fisheries, we have supported attempts to simplify the current complex system of regulations covering gear and effort through the use, in most cases, of individual exchangeable quotas. And in water management, we have supported the application of marginal cost pricing for fresh water, the principle of "polluter pays," and the introduction of emission charges.

With respect to industrial and competition policies, the Council has urged a variety of measures to promote technological innovation and diffusion without, at the same time, arguing for a broadly based, interventionist industrial policy. The Council believes that workably competitive markets are the best instrument for selecting winners and excising losers in industry. To this end, we urge the present government to proceed quickly with its examination and implementation of a new competition bill. In *Reforming Regulation* we urged extensive changes in the transportation system, to bring about more open entry and pricing in commercial airlines and trucking, and we are heartened by recent government actions along these lines. We continue to be concerned about administered prices in agriculture and energy, and we have suggested ways and means by which the federal government could encourage housing and private business financing without intruding into those areas best served by existing financial markets. We have particularly stressed the need for governments to encourage the strengthening of the equity base of the corporate sector – a process that is now under way.

Some years ago, in its Fifteenth Annual Review, the Council devoted a chapter to the various health, education, and social welfare elements of government expenditures, and there we observed that: "Most social programs are categorical, in the sense that they are intended to benefit a particular group – the aged, the young, the sick, the unemployed, and mothers with children – rather than a particular income level."[2] It was noted though that:

> The universal social security schemes now in place have been evolved painstakingly over a long time. That they are now as universal as they have become derives from the belief, well tested in experience, that universality is the best way to minimize arbitrariness of any kind in the delivery of these programs and, accordingly, the best way to safeguard the dignity of each and every individual who comes into contact with them.

And we concluded that:

> There is, in our view, relatively little room for expenditure savings other than those that may occur as a result of changes in the composition of the population – in the areas of education and family allowances, for example. Limited savings might be found by moving away from universal to more selective programs, but selectivity has its own costs in terms of an increased bureaucracy, regulations, and enforcement procedures. Moreover, for programs that involve contributions, participants build up a strong sense of entitlement, quite apart from the level of their income.

We are still of this view, though we recognize that the scope of such programs has to fit within the limits of the country's fiscal capacity.

As the population ages, there will be further requirements for expenditures on health care and pensions, and there are other areas where the concerns of women in particular are paramount. If governments are to address their social program obligations responsibly, together with these additional needs, it is important that they deliver the services and funds as efficiently as possible. Where appropriate, there may be room for better targeting to those most in need, while at the same time recognizing the inherent social value of a broad participation of commitment and entitlement. But the principle of universality or of broad participation does not rule out, for instance, the application of selective tax credits such as we suggested last year as an alternative to exemptions for wholly dependent children. Nor

does it rule out raising the individually based contributions to entitlement programs, as we suggested over five years ago, in *One in Three: Pensions for Canadians to 2030*, in the case of the Canada and Quebec Pension Plans. In Chapter 2 we noted that the payroll and social security taxes account for proportionately less government revenue in Canada than in any other major OECD nation. It is our perception that, faced with a tightly restrained budgetary situation overall, most Canadians would prefer to preserve the financial solvency of their social entitlement programs through increased payments than to have the coverage or the benefits from such programs diluted or gutted.

Tackling Unemployment

Of foremost importance, however, is the question of jobs. This in turn depends directly on the health and viability of the economy, and upon the restoration of business and consumer confidence. Canada's record in creating employment has been quite outstanding compared with that of other OECD countries, just as its record on unemployment has been among the most dismal.

As we have seen, the number of Canadians wanting to work has grown enormously, outstripping the number of new jobs that have emerged. A few years ago the development of megaprojects in various parts of this nation was seen as the primary engine of growth and job creation. This is no longer the case, although unquestionably there will be, as there has been in the past, a succession of mini- and megaprojects that will give stimulus to particular regions of the country. In Alberta, for instance, the Syncrude expansion and a number of modest *in situ* oil developments at Cold Lake, Wolf Lake, and Fort Kent are going forward, as is the Husky Oil upgrader in Saskatchewan. Recent reports from the Beaufort Sea area are more promising, which in turn has implications for the Alaska Highway gas pipeline. And it is expected that work on the Hibernia infrastructure and on the East Coast gas pipeline will be phased in within this decade. In central Canada there is some evidence of renewed manufacturing expansion and many new high-technology ventures. But the most growth has taken place – and many of the most satisfying and enduring jobs have been created and will continue to emerge – in the service sector, more recently among the small and medium-sized financial, business, and service enterprises catering to the new buying preferences of Canadians and markets abroad. These jobs have been created at far less immediate cost than jobs in the manufacturing and primary sectors, where extensive plant and equipment and other resources are required for each added man-year. Most have been generated through purely private initiative. More will be generated if real interest rates decline and investor confidence returns.

But further government initiatives may be necessary in the short run. We believe that governments, when considering the introduction of new or modified job creation schemes (however targeted), should give more attention to the opportunities available in the service sector. This is not to rule out apprenticeship, training, or job creation schemes that favour traditional manufacturing or construction activity but rather, to observe that the relative capacity of both of these sectors to provide additional jobs has been declining. Moreover, we believe that in the identification, development, and matching of jobs, skills, and trainees, there is room for greater harmonization of federal and provincial efforts.

Unemployment insurance is an important and vital part of the commitments and obligations undertaken by Canadians for Canadians, and in no way do we wish to see the fundamental principles embodied in that program placed in jeopardy. In last year's Annual Review, however, we compared the $12-billion outlay on unemployment insurance benefits required to sustain Canadians who were idle with the "roughly $1 billion in job creation funds administered by Employment and Immigration Canada," and we found it "difficult not to wonder whether some more efficient arrangement could be devised whereby a larger proportion of the funds could be directed to employment."[3] We put forward the idea of a system of vouchers appended to the program to provide access to jobs or retraining, acknowledging that additional programs would be needed for younger persons or those with limited work experience. We suggested that there was a need for labour, management, and government to come together in good faith to examine various possibilities for channeling unemployment insurance and related government training and job creation funds more productively.

We repeat this suggestion. We are not necessarily attached to the idea of vouchers or to any specific alternative scheme. What we are stressing is the need for the contributing parties to address Canada's principal institutional answer to unemployment in a positive way and in the knowledge that fairness and fiscal prudence may require new initiatives and compromises. It was over 20 years ago that a special commission, the Gill Commission, examined the shortcomings and the potential inherent in Canada's unemployment insurance system. We urge the establishment now of a new commission – with a prescribed life and a broader mandate – involving the full partnership of government, labour, and management, to examine specifically the possible options inherent in programs that now address the needs of the unemployed with respect to both income security

and jobs. An alternative could be a Parliamentary task force like the one that recently helped to enunciate the issues pertaining to private and public pension reform.

Towards Fiscal Credibility

We are convinced that a firm, medium-term program to limit the growth of the ratio of national debt to GNE – in other words, to reduce substantially the ratio of the government deficit to GNE – is desirable for Canada. There is no sharp dividing line dictating when that ratio has become dangerous or when federal remedial action is imperative. But we do believe that without the medium-term realization of fiscal restraint, Canadian finances will move into a range within which some very difficult distribution and growth problems could arise. Even if Canada were to have a moderately favourable growth and interest rate experience, a medium-term setting of fiscal restraint would be desirable. The better our luck, the faster the accomplishment of the debt control and deficit reduction. As we have indicated, the restraint in the fiscal setting should involve both expenditure restrictions and the raising of revenues.

In the pursuit of a deficit reduction, a few Council members believe that major cuts or restraints in the growth of government spending are desirable and easily achievable; others expect less net fiscal savings on this account. Most members of Council hold the view that some revenue increases will form a necessary part of an acceptable deficit reduction program; all members hold the view that such a program will have to be shared broadly among Canadians and be seen to be fair.

Of late, various groups have offered suggestions on specific ways to cut expenditures at the federal level. These range from streamlining the operations and efficiency of government to disposing of some Crown corporations, to extensively modifying existing programs. In the economic and regional development area, grants and subsidy programs have been singled out as having been quite often ineffective. It has also been suggested that the Petroleum Incentives Program (PIP) grants be eliminated or replaced and that some transportation subsidies be capped or lowered. Some have urged the abandonment of universality with respect to family allowances and old age security, as well as the easing or elimination of subsidies in agriculture. They would also lower Canada's contributions to foreign aid.

We believe, as do many others, that there is room for further efficiency in government. The current thorough review of all federal government programs in relation to their objectives is a step in the right direction, especially if it identifies programs that are underperforming or are no longer needed. These may include lending and guaranteeing programs, which now account for a sizable proportion of federal and provincial government debt. Our own earlier work indicated that many loans, grants, and subsidy programs do not achieve their objectives.

We have misgivings, however, about cuts in other areas, particularly in social programs and foreign aid. Despite the massive deficit that accompanied the 1981-82 recession, the basic posture of the federal government in recent years has been one of expenditure restraint. The new government has undertaken to respect the basic principles embodied in the nation's social contract, internationally as well as domestically; and while undoubtedly there is scope there for some economies, the main thrust of expenditure reduction probably lies elsewhere.

Governments at both the federal and provincial levels will wish to avoid putting into place open-ended expenditure programs with total costs unknown and no ceiling on expenditures. Discipline could be exerted by identifying an explicit source of financing before introducing new programs. And those governments which do not already have them may wish to introduce separate capital and operating budgets to provide for a better match between categories of expenditures and the form of financing. Some cost reductions in servicing the public debt might be achieved by broadening the markets for government securities or by tailoring debt instruments to target groups of investors. Such changes would not take governments very far. They might help to hold in check the growth of deficits, but they would be unlikely to produce a dramatic reduction in their levels.

At the federal level we have identified most of the budgetary shortcomings as being on the revenue side. These shortcomings must be addressed over the medium term. In our view, regardless of the measures taken to curb expenditures, Canadians must accept the painful proposition that additional revenues will be required if the government is to keep its intention of vigorously reducing the deficit relative to GNE over the course of this decade.

When and how these revenue increases will be obtained will depend on many things, the uppermost being the investment climate and the health of the economy. Our simulations suggest that with luck, a favourable international environment, the restoration of domestic business confidence, and a timely mix of job-creating expenditures and tax increases could result in both unemployment and the deficit being lowered significantly by the end of the decade. Without extensive study it would be premature to identify how, or where, revenues might be raised. Over the past decade, however, both in personal

income taxes and in corporate taxes a variety of specific deductions or incentives have been introduced that we believe could now be usefully reviewed.

Each year the Department of Finance issues a calculation of these tax expenditures at the federal level; we identified some in Chapter 2 that involved billions of dollars. Among them we believe there is substantial scope for reform, which initially would mean broadening the tax base rather than increasing the rates paid by individuals or businesses. Admittedly, many of the tax exemptions were designed and introduced for good reasons. But times have changed, and the urgency or priority of those original purposes seems less imposing when all Canadians must expect to share the pains of fiscal restraint.

Beyond measures of this kind, it may be necessary to raise tax rates more broadly. If this is done during a period of stronger economic growth, when real incomes and employment are expanding, the additional burden will lie less heavily on Canadians. Nevertheless, the price of past fiscal imprudence is that, for a short time at least, many Canadians will be faced with a lower real standard of living.

Last year we recommended that the Bank of Canada adopt a monetary policy designed to keep real interest rates down to levels consistent with our targets. This, of course, was a medium-term recommendation, made in full recognition of the fact that it is difficult to divorce Canadian monetary strategy from that of the U.S. Federal Reserve Board "without incurring substantial swings in investment flows and in the Canadian dollar's foreign exchange value."[4] Since that time the Canadian dollar has depreciated somewhat against the U.S. dollar, and interest rates have crept upwards. The overall ratio of investment to GNE in Canada has traditionally been higher than that in the United States, and this has contributed to the fact that Canadian interest rates are closely aligned to U.S. rates through interrelated North American financial institutions and intermediaries. In recent years, however, the personal saving rate in Canada has risen considerably. In the long run, therefore, the need to keep Canadian interest rates abreast of, or somewhat higher than, U.S. interest rates may diminish. Certainly, if U.S. rates take another short-term spike, as they did in 1981, we would urge that the Bank of Canada pursue policies to keep Canadian interest rates more attuned to their longer-term trend levels. While for Canada the relationship is delicate, we believe that the combined targets that we have established, together with some stimulus to promote employment growth, call for a policy mix that favours fiscal prudence and a somewhat more flexible monetary posture rather than fiscal aggressiveness and a tight monetary policy.

Conclusion

We have traced briefly the growth in the role of governments in the Canadian economy and the economic difficulties they encountered as the economy slowed and as inflation took its course. We have seen how they, the corporate sector and financial institutions overextended their fiscal reach and how many of the corporate firms wound up with real cash flow difficulties and deeply in debt. As a result, expenditures were curtailed; investments were postponed; and bankruptcies increased. Worried households paid down mortgages, increased savings and spent less. Unemployment soared, hitting workers who had never before been seriously affected by layoffs.

While Canada is now coming out of the recession, it is not likely that governments or enterprises will return to their relatively unrestrained spending habits of the early 1970s. The ratios of private debt to equity, while improving, are still substantially higher than before the recession. Most governments still have serious debt problems. Managers, both public and private, are turning to new technology to reduce costs. Average negotiated wage increases are currently the lowest in almost 20 years, and unemployment rates are still unacceptably high.

Yet the prospects for renewed economic vitality are sound, provided that Canadians have the confidence and the will to act, and that the international setting turns favourable. Needed at the federal level is a confident and steady hand "steering the course" – mixing firmness with flexibility, direction, and sensitivity but being fully committed to consultation and good relations with the provinces and with business and labour.

In considering the possible policy options, our economic simulations are illustrative only. Those presented in this final chapter cover but a few of the various options at hand. They are premised on the view, though, that 1) as long as unemployment remains high in Canada the emphasis must be on measures that will put people back to work; 2) these must be embedded in policies of firm debt control and structural reform; 3) international developments – particularly those which determine U.S. and Canadian interest rates – as well as the domestic restoration of investor and consumer confidence are crucial to the fiscal health of the economy and the simultaneous reduction of unemployment and the federal deficit; and 4) the timing and mix of new policy initiatives are also vitally important.

Of one thing, we can be very sure. Regardless of how much econometric simulations and projections may help to illustrate the interdependencies within

Canada's economy or between it and its neighbours, events will not exactly coincide with the premises or designated projections; policy makers will constantly have to exercise their judgment and weigh options in response to new situations.

We urge a commitment to the targets set out in this chapter, which we believe will be mutually attainable in the medium run. And we offer the following guideposts for policy strategies:

- The foremost task of the new federal government is to establish a climate of confidence for governments, business, labour, and households in Canada. This presupposes a spirit of openness, a willingness to consult on various issues, and a firm determination to steer a steady and fiscally responsible course.

- The primary concern now is to put Canadians back to work. This will require a combination of public and private initiatives, recognizing that the most enduring and rewarding jobs are those created in response to the normal demands of the market. A renewed sense of confidence will spur private investment and consumer spending, and lead to new jobs. Public initiatives at both the federal and provincial levels will be needed, however, to encourage job creation and the skill retraining necessary in a technologically changing world.

- The federal government must be committed to fiscal responsibility and the reduction of the federal deficit. Without such a commitment, Canada will surely experience debt-servicing and distributional problems, which in turn will impair confidence and growth. Implementation of a deficit reduction program should be firm but gradual, and consistent with the pursuit of employment objectives. There is merit in an explicit timetable that would be sufficiently flexible to ease the budget tightening if employment growth turned out to be unfavourable and to stiffen it should developments turn out to be more favourable than anticipated.

- The principal cause of the federal government's past and present fiscal plight has been the shortffall of revenues. During the past decade overall expenditure growth has been relatively restrained. Hence, while there are indeed areas in which federal expenditures can be curbed without impairing the efficiency or fairness of government policy, it seems likely that a major part of the federal debt reduction will have to come from increased revenues. The single, most important contributor to federal revenues is a healthy and growing economy. If, however, tax increases are required, we urge first a broadening of the tax base through the elimination of some exemptions and loopholes, and beyond that, modest annual tax rate increases to ensure that the pain of restraint is broadly shared.

- The federal government has a commitment to preserve the objectives and substance of the various social programs that contribute to the economic security, health, and well-being of Canadians. In the scope and design of these programs there is substantial political and administrative virtue in the principle of universality, particularly with respect to contributory programs, though universality is not an absolute value that dominates all other considerations. Increased contributions do not violate the principle of broad participation in social programs; and particularly in the case of public pensions, they may be overdue. While undoubtedly there are areas where the present social programs could be improved and perhaps more specifically targeted, realistically those changes would likely involve only marginal adjustments in the net fiscal stance. Any major changes should be examined carefully in conjunction with the tax system.

- There are other economic areas where the federal government, working with provincial governments, could address the need for structural improvement in the Canadian economy. We have cited a number of these in this chapter, and we have recommended many more elsewhere. On balance, the thrust of these recommendations is directed towards the encouragement of workable competition and private decision making, with a preference for market rather than regulatory outcomes and, where government intervention is necessary, a greater use of economic criteria.

We have entered a new era of microelectronics, robotics, biogenetic engineering, gene screening, and space technology. The international transfer of goods and services, technology, and information is enormous, matched only by flows of capital between nations. As a country we have now emerged from an extensive period of domestic tension, marked by high inflation, slow economic growth, minimal productivity improvements, and fractiousness over powers and resources among governments and interest groups. The economic prospects ahead are far more favourable, particularly if Canadians bury past differences and share more fully the obligations and rewards that the future offers. We are a favoured nation, rich in the diversity of cultures and ideals, natural resources, and the scientific and technological ability to compete – wealthy by international standards. It is against this backdrop that we, as Canadians, through our governments and institutions, must address the urgent problems of unemployment, economic and social disparities, and lack of public confidence and fiscal credibility.

Comments and Reservations

Diane Bellemare

In the eyes of Canadians, the two most pressing economic problems at the present time are without a doubt the 1.3 and 1.4 million Canadians out of work (as of September 1984), and mounting government deficits, particularly the federal deficit. As surveys during the last election campaign showed, however, Canadians do not all see these issues in the same way. For some (probably the majority), unemployment is the number one problem, but for others the deficit is more worrisome. In any event, these two issues are currently the focus of public debate, and so the Council's latest Annual Review is very timely in undertaking an analysis of these two problems.

Let us start by summing up the main policy recommendations made by the Council on the basis of its analysis. First of all, it is suggested that employment must be considered the priority issue, and that the federal government must initiate action to help restore faith in the Canadian economy and to encourage cooperation between governments and the private sector in order to create new jobs. Secondly, it is recommended that the federal government adopt a prudent approach to fiscal policy, in particular by taking steps to gradually reduce the deficit through increased revenues rather than through spending cuts.

These recommendations undoubtedly reflect the views of many Canadians. I would like nevertheless to express my reservations on three specific points. The first concerns the assumption that the medium-term unemployment rate can be expected to reach 6 to 8 per cent. The second concerns the deficit controversy. Lastly, I would like to discuss the assumption that it is impossible for Canada to adopt a monetary policy independent of that of the United States.

To my mind, there is no basis for the assumption that the unemployment rate under full-employment conditions should lie between 6 and 8 per cent. This idea fosters a sense of impotence and pessimism among Canadians, and can only work counter to economic progress. The existence of a natural level of unemployment under full-employment conditions is mainly attributable to frictional and structural problems in the labour market that cannot be remedied by present economic policies. These views are shared by certain economists and by the Council, who believe that although this natural unemployment rate is high, it is primarily the result of the increased numbers of women and young people who have joined the labour force since the early 1970s, a factor which causes instability in the labour market. They also feel that the unsettling effects of this instability of behaviour are linked to the generosity of welfare safety nets, so that the loosening of unemployment insurance regulations, increases in the minimum wage, and other social measures undertaken since the early 1970s have increased the instability of women and youth in the labour market and consequently have forced upward the natural unemployment rate. According to this line of reasoning, the natural unemployment rate is a consequence of voluntary unemployment and is therefore not a prime concern. I disagree with this explanation; I feel it is contradicted by the facts.

First of all, judging by the representations of youth and women's groups at the MacDonald Commission hearings, it does not appear that these groups are unemployed by choice. They unanimously asserted their right to have a job. Secondly, it is conceivable that some people are tempted to take advantage of the generosity of social assistance programs, even going so far as to defraud the system. However, if this type of behaviour were generalized, one would expect to see a drop in the natural unemployment rate from 1975 on, since it was at this time that unemployment insurance, the minimum wage, and social assistance programs all began to decline. The Council has apparently noted a change in the behaviour of these groups, but only in recent years. In this case, why does the Council persist in its belief that the unemployment rate under full-employment conditions must lie between 6 and 8 per cent?

Indeed, most Canadian studies on the labour market behaviour of women and young people are incomplete, since they focus almost entirely on the labour supply characteristics of these groups. But there are other possible explanations for their behaviour. For instance, it has been postulated that the reason women and young people are faced with higher turnover rates than prime-age males is that the only positions open to them are repetitive and low-paid jobs that offer few opportunities for promotion. The behaviour of women and young people may not be intrinsically different from that of other groups. Is it not possible that it is the nature of their jobs that

causes high turnover rates, and that if prime-age males were forced to work in such jobs, they too would display the same behavioural patterns?

If this is true, then the conclusion that unemployed persons are without work by choice and that their problems are not important is wrong. It is even possible that the unemployment rate might be eased by implementing policies designed to encourage employers to improve working conditions in jobs of this kind.

Regardless of which supply and demand factors are the most important in explaining the behaviour of women and young people, it remains that a national unemployment rate of between 6 and 8 per cent can involve widely disparate rates at the provincial level. In 1977, for example, when the national unemployment rate was 8.1 per cent, provincial rates varied from 4.9 to 12.6 per cent. Provinces with employment rates of 12.6 per cent obviously do not consider themselves in a situation of full employment. Indeed, it is difficult to imagine how the behaviour patterns of women and young people in such provinces could be so different as to cause such a discrepancy in unemployment rates. This situation is all the more unacceptable because there are countries where the participation rates of women and young people are quite similar to Canada's, and yet where full employment seems to be attainable. For example, while in 1983 the standardized unemployment rate for Canada as calculated by OECD was 11.8 per cent, it was only 3.5 per cent in Sweden, 3.3 per cent in Norway, and 4.2 per cent in Austria.

In short, in reference to the first assumption, I would like to state that a national unemployment rate of between 6 and 8 per cent should not be established as an objective. Not only is it untenable on a theoretical level, but it is politically and economically unacceptable. If present economic policy is unable to move the country in the direction of full employment, then it is high time to change it.

In reference to the second point – i.e. the importance of reducing the public deficit – the new Annual Review shows clearly that the deficit as it now stands is not really the cause of economic problems. The United States government deficit may indeed be having harmful effects on the Canadian economy, but it must be understood that this is the result of the monetary policy course charted by the Bank of Canada. The only negative effects that the debt and the deficit can have on the economy stem from the size of interest payments, which very often have harmful effects on income distribution. Overall, then, the worries some people have about the deficit amount to pure speculation.

It can be conjectured that the deficit would be a much less controversial subject if it were simply the result of temporary job creation programs designed to correct cyclical deficiencies in the private sector. In this case, the deficit itself would be short-term. However, this is not the thrust of current Canadian policy. Long ago the decision was made by our governments to concentrate on income support programs in times of recession rather than on job creation. As the Council notes, the amount of money spent on unemployment insurance programs far exceeds that spent on job creation. This means that the deficit is directly linked to the level of unemployment, and that most of the deficit would disappear in a situation of full employment. Several statistical studies have indicated that, in comparison with the unemployment situation, the discretionary tax cuts enacted since 1975 represent but a minor part of deficit increases.

It may be that the time has come to question the soundness of present policy strategy. As suggested by the Council, unions and employers must be involved in such a reassessment. Provincial governments, as well, must be invited to participate in the process, since they have a crucial role to play in job creation.

In reference to the third point – i.e. the impossibility of Canada adopting a monetary policy independent from that of the United States – the analysis presented in Chapter 1 demonstrates how costly this kind of economic fatalism is for Canada. Table 1-2 shows the results of projections made according to various scenarios. One of these may be termed optimistic; it assumes, among other things, that short-term interest rates in Canada will fall to 8.4 per cent by 1990. It can be seen (Table A-5) that if this happens, by 1990 the unemployment rate in Canada would be 8.7 rather than 9.8 per cent, the federal deficit –2.1 of the GNE rather than –4.8 per cent, and federal government interest payments 13.7 rather than 24.9 per cent; in the meantime, the federal debt would fall to 42.9 per cent of the GNE instead of the 52.6 per cent forecast. This simulation shows clearly that the performance of the Canadian economy is extremely sensitive to interest rates. However, the assumption in this scenario that real short-term interest rates will fall to approximately 5.5 per cent by 1990 is still conservative in relation to the base case, which postulates rates of 7.7 per cent.

The positive effects of lower nominal and real interest rates than at present are explained by their impact on national expenditures and on interest payment reductions. Thus there is not necessarily a contradiction between having both less unemployment and a lower deficit; it depends on the economic policies followed.

This leads me to return to one particular result of the Council's analysis – one which, in my opinion, is not fully brought out in the recommendations as they now stand: many of our employment and financial problems in both the public and private sectors are the result of prevailing monetary policies. It is now recognized by many experts that the monetary policy Canada followed during the 1970s was largely responsible for the severity of the recession we have just endured. It must also now be recognized that the same policy is partly responsible for the lagging economic recovery in Canada. The present level of interest rates in Canada, as set by our monetary policy, offers no incentive to investment or consumption, and creates financial difficulties for both governments and business.

In its analysis, the Council points out the harmful consequences of present monetary policy. However, it assumes that Canada cannot chart an independent course for monetary policy "without incurring substantial swings in investment flows and in the Canadian dollar's foreign exchange value." However, it must also be pointed out that present policy is stifling real investment in machinery and equipment, which can create jobs where speculative capital cannot.

In light of the above, the apparent impossibility of Canada following an independent monetary policy should be called into question. The costs of maintaining present policy should be compared with those involved in formulating an independent policy. The negative effects of such a course may not be as severe as some believe. In fact, it is all too easy to state that Canada cannot divorce its interest rates from those of the United States. How then can we explain how countries such as Germany and Japan, to name but two, which are also subject to the international pressure of American monetary policy, are able to maintain such low interest rates? The question merits further study.

Appendixes

A Statistical Tables

Table A-1

External Environment Assumptions (Base Case Projection), 1984-90

	1984	1985	1986	1987	1988	1989	1990
				(Percentage change)			
Industrial production							
OECD area	9.3	3.4	0.2	6.0	3.5	2.6	0.6
Selected OECD countries[1]	4.9	3.1	1.5	3.3	3.4	2.7	2.7
International price of crude petroleum (f.o.b., $Cdn.)	1.6	5.4	5.5	5.0	5.9	6.0	6.2
United States							
Real gross national expenditure	6.3	2.7	0.6	5.0	3.1	2.5	0.5
Industrial production	11.6	3.5	-0.5	7.3	3.6	2.5	-0.4
Consumer price index	3.6	5.5	5.6	5.1	5.9	5.8	5.9
				(Per cent)			
Unemployment rate	7.6	7.3	7.9	6.7	6.4	6.7	7.7
Short-term interest rate[2]	10.3	12.5	12.2	8.9	9.9	11.7	12.2

1 France, Italy, West Germany, the United Kingdom, and Japan.
2 Short-term (3 months) prime commercial paper rate.
SOURCE Economic Council of Canada, CANDIDE Model 2.0, July 1984.

Table A-2

Components of the Domestic Crude Petroleum Price to Consumers (Base Case Projection), Canada, 1984-90

	1984	1985	1986	1987	1988	1989	1990
				(Dollars per barrel)			
Domestic price at Toronto	36.79	38.69	41.41	43.82	46.53	49.56	52.82
Canadian ownership charge	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Petroleum compensation charge[1]	4.57	6.44	7.89	8.72	9.48	10.41	11.37
Transportation charge[2]	1.32	1.35	1.38	1.42	1.48	1.54	1.60
Wellhead price for conventional old oil[3]	29.75	29.75	30.99	32.53	34.42	36.46	38.70
International price at Montreal	38.48	40.51	42.69	44.79	47.38	50.16	53.20
				(Ratio)			
Ratio of domestic wellhead price to international price	.797	.759	.750	.750	.750	.750	.750

1 The petroleum compensation charge reflects the considerable shift to "new" oil sources as the period progresses.
2 To Toronto only.
3 As per the June 1983 amended agreement between the federal government and Alberta.
SOURCE Economic Council of Canada, CANDIDE Model 2.0, July 1984.

Table A-3

The Phasing of Large-Scale Energy Investment Projects (Base Case Projection), Canada, 1984-90

	Phase-in year	Peak period	Phase-out year
Oil sands			
Syncrude partial expansion	1984	1986-88	1990
Canstar	1987	1990-92	1994
Cold Lake[1]			
Alsands[2]			
Pipelines			
TOM pipeline	1981	1982-84	1987
Alaska Highway gas pipeline	1986	1987-88	1991
East Coast gas pipeline	1989	1990-91	1992
Hibernia oil project	1986	1987-88	1989

1 The recently announced Cold Lake *in situ* expansion project is included in our exploration and development assumptions but is not singled out here
2 The cancelled Alsands project has been excluded from the energy assumptions
SOURCE Economic Council of Canada, CANDIDE Model 2.0, July 1984

Table A-4

Domestic Policy Assumptions in the Base Case

Energy pricing	Crude petroleum and natural gas pricing schedules are as per the 1981 energy pricing agreements and subsequent agreements, with revenues split between producing provinces, the federal government, and producers in accordance with the most recent policies.
Tax policies	All post-budget (November 1981, June 1982, April 1983, and February 1984) tax schedules (personal, corporate, and indirect) are in place, including schedules incorporating the National Energy Program, the 1981 energy agreements, the NEP Update, and the June 1983 energy agreement amendment, where applicable. This includes the petroleum compensation charge, the Canadian ownership charge, the incremental oil revenue tax, the natural gas and gas liquids tax on domestic production, and the petroleum and gas revenue tax. The Quebec personal income tax remains a constant portion of total provincial taxes. All provincial budgets, as of June 1984, are incorporated.
Expenditure policy	Government spending on goods and services is restrained, with annual increases in real expenditures averaging as follows: federal government – nondefence, 1.6 per cent, and defence, 1.1 per cent; provincial governments – wages and salaries, 2.0 per cent, and other spending, 1.5 per cent; municipal governments – wages and salaries, 0.2 per cent, and other spending, 1.5 per cent. Government wages are indexed to increase in line with the CPI, except for federal wages, which follow the 6 and 5 per cent rule for 1983 and 1984. Transfer payments are indexed as legislated. Established Programs Financing and fiscal arrangements reflect budget changes and the five-province standard for equalization payments. Federal spending associated with capital assistance and subsidies reflects existing government policy. Among other things, allocation to the economic development and energy envelopes is as outlined in the recent budget papers.
Monetary policy	Canadian interest rates are in line with U.S. rates. The money supply is accommodating, with temporary downward movements in velocity accounted for.

SOURCE Economic Council of Canada, CANDIDE Model 2.0, July 1984.

Table A-5

Optimistic, Pessimistic, and Base Case Projections, Canada, 1985-90[1]

	1985	1986	1987	1988	1989	1990
			(Percentage change)			
Gross national expenditure (1971$)						
Base case	2.0	0.7	2.9	3.8	2.8	1.3
Optimistic case	4.0	2.1	3.3	3.6	2.6	1.6
Pessimistic case	0.2	0.2	2.5	4.1	2.7	1.6
Consumer price index						
Base case	4.8	4.6	3.6	3.3	3.6	4.3
Optimistic case	4.7	4.2	3.4	2.8	2.6	2.9
Pessimistic case	5.1	5.3	4.1	4.3	4.5	5.3
Employment growth						
Base case	1.6	1.2	1.7	2.0	1.7	1.2
Optimistic case	2.4	1.9	2.1	1.9	1.5	1.2
Pessimistic case	0.8	0.8	1.5	2.3	1.8	1.4
			(Per cent)			
Unemployment rate						
Base case	11.0	11.2	10.8	10.0	9.7	9.8
Optimistic case	10.4	9.9	9.2	8.5	8.4	8.7
Pessimistic case	11.7	12.0	11.7	10.8	10.4	10.5
			(Percentage of federal expenditures)			
Federal interest payments						
Base case	22.2	22.6	19.9	21.2	23.5	24.9
Optimistic case	21.1	20.1	16.3	15.9	14.8	13.7
Pessimistic case	23.8	26.4	25.3	27.6	30.2	33.4
			(Percentage of GNE)			
Federal deficit						
Base case	-6.2	-5.6	-5.0	-4.6	-4.7	-4.8
Optimistic case	-5.5	-4.3	-3.3	-2.8	-2.4	-2.1
Pessimistic case	-7.1	-7.2	-7.0	-6.6	-6.8	-7.4
Federal debt						
Base case	41.4	45.0	47.4	48.8	50.5	52.6
Optimistic case	40.0	41.9	42.7	42.8	42.9	42.9
Pessimistic case	42.8	48.1	52.3	55.1	58.1	61.8
Current account balance of international payments						
Base case	-0.4	-1.3	-1.1	-1.0	-1.0	-1.4
Optimistic case	-0.9	-1.7	-1.5	-1.1	-0.7	-0.8
Pessimistic case	0.2	-0.6	-0.4	-0.6	-0.8	-1.5

1 For a description of alternative projections, see Table 1-2.

SOURCE Economic Council of Canada, CANDIDE Model 2.0, July 1984.

B Debt Management

Access to financial markets, a key issue for debt managers at both the federal and provincial levels, depends to a large extent on the effectiveness of debt management. Many economists believe that debt management also has an important impact on the course of economic activity. As distinguished from budgetary management, debt management deals with the various conceptual and technical aspects of issuing new debt and with decisions relative to the timing, maturity, yield, and other conditions of securities issues. By contrast, budget management deals with decisions on the size of the budget, the size of the deficit, and the proportion of the deficit to be financed through debt issues and through monetization.

Objectives

The primary objective of debt management in Canada is to borrow funds in sufficient amounts at minimum cost to refund maturing issues and to cover the net government cash requirements resulting from budgetary deficits and nonbudgetary operations.[1] Another major objective is to minimize disruption in capital markets and to foster the development of a vigorous capital market in Canada. In fact, particularly at the federal level, debt management is an integral part of government policies affecting credit conditions, and it is aimed at improving the functioning and the efficiency of the Canadian financial system. The first objective is usually achieved through a broadening of the range and distribution of government debt, the effective management of selling operations, the development of efficient secondary markets for government securities, and the achievement of a balanced maturity structure. The latter objective is realized through development of the range of instruments available, through the tailoring of those instruments to the needs of specific groups of investors, and through changes in the composition of the debt outstanding to bring about the desired changes in interest rates and in the yield curve.

The Broadening of Markets for Government Debt

To broaden the market for government bonds, there is, of course, no substitute for an adequate yield. But this can be supplemented by other measures.

Flexibility in interest is one such measure. With increasing cash requirements and increasing interest rate volatility, such flexibility could be important to ensure a successful government bond issue at the federal or provincial level. Interest flexibility in bond issues is not as common in Canada as it is in other countries. For instance, the interest paid on government securities may be tied to an index, or the contractual agreement may provide for different coupons paid for different maturities. The closest that governments in Canada have come to such an approach is the federal government's current practice of issuing bonds with three different maturities – short, medium, and long. Each of these types of bonds has different coupons and different prices, providing a different yield to maturity. Another instance of interest flexibility is the increase in the interest paid on outstanding Canada Savings Bonds at maturity.

Flexibility in maturities is another way to ensure the broader acceptance of government securities by investors. A range of maturities may be offered, and the actual split between various maturities may be left to the market, as is the case in federal government issues where a ceiling is only placed on long-term maturities. Options, such as early redemption or maturity extension, may also be offered to investors. Provincial governments offer such options, particularly in their foreign issues. Government securities may also be assorted, with various redemption features tailored to the desires of specific investor groups. For instance, securities may be redeemed in one lump sum or over time by purchases of securities outstanding through the fiscal agent of the government or by sinking funds.

Tax features may also increase the attractiveness of government securities. For instance, as in the United States, income from government bonds may be tax-free or taxed at preferential rates. While introducing such features, account should be taken of the implications for the bond market in general of giving a special tax treatment to part of this market and of revenue implications for the issuing and taxing government.

Markets for government securities may be increased through regulation pertaining to mandatory investment and prudent behaviour. This does not exactly constitute a broadening of the market for

government securities, as the enterprises or institutions that fall under such regulation are obliged to hold the government securities and no, or little, secondary trading takes place. Although the primary objective of some regulations may not be to increase the holding of government securities and, therefore, to facilitate the fulfilment of government borrowing needs, they may nevertheless have such an impact. For instance, the secondary reserve requirements imposed on chartered banks have raised their demand for treasury bills and other short-term securities issued by the federal government, and have thus facilitated, albeit to a small extent, the federal government's fund-raising efforts. The main objective of this regulation was to increase the liquidity of chartered banks and the safety of deposits entrusted to them. Secondary reserve requirements have, however, been modified in the past, particularly in the late 1970s, to accommodate the financial needs of the federal government.

The broadening of the market for government securities may involve increasing the recourse to a particular group of investors. This becomes an important goal when cash requirements are increasing. The federal government and some provincial governments have increased their reliance on the household sector in their borrowing activities. In doing so, it is necessary for them to compete for funds with chartered banks, which provide an outlet for the savings of this sector. Individuals generally wish to invest their savings in instruments that will provide a high degree of liquidity and little or no risk of capital loss. In this respect, deposits at chartered banks, trust companies, or caisses populaires constitute ideal instruments. Nonmarketable instruments are best suited to compete with such deposits. These instruments are issued to a specific holder and cannot be bought or sold on the open market. The saving bonds issued by the federal government and by the governments of Quebec and Manitoba are examples. They are highly liquid, because the issuing government stands ready to redeem them at any time at face value. Marketable instruments – namely, securities that can be bought and sold on the open market, and traded on secondary markets – may also be offered to the household sector, although they are probably less attractive, given the sector's preference for liquidity and its aversion to capital loss.

Governments may also try to attract the savings of nonfinancial enterprises, especially through the offering of short-term investment papers to corporate treasurers; and insurance companies and pension funds may also be a source of funds for governments. Non-bank financial institutions generally have long-term liabilities, and their aim is to avoid capital losses as much as possible, while maximizing the return on their investments. Governments might consider offering nonmarketable instruments specifically aimed at these institutions, as is done in certain other countries such as Germany and Spain. Indexed instruments, paying a predetermined fixed real rate but whose principal is indexed to inflation, could be issued to accommodate the needs of this category of investors. Indexed instruments may be particularly attractive to pension funds, whose liabilities are directly or indirectly tied to the future course of inflation. In several countries – for example, the United Kingdom – such indexed instruments are currently being used. The Economic Council recommended, in *Intervention and Efficiency*, that governments facilitate the introduction of indexed securities to ease the financing of homes and rental properties when prices are unstable.

Selling Operations

To be successful in raising the amount needed while lowering the cost and in minimizing the impact of issues on financial markets, governments must manage their selling operations effectively. Several techniques have been used both in Canada and in foreign countries. Bonds can be sold on a fixed-yield basis during a short period of time; an auction technique can be used; or bonds can be sold on tap.

Most marketable long-term bonds are issued in Canada on a fixed-yield basis during a short period of time. This provides for a smooth selling operation if interest rates are stable – at least throughout the announcement and distribution period – and if the timing is right. With increasing financial requirements, however – as experienced in recent years, particularly at the federal level – the debt manager has less flexibility with respect to timing. Furthermore, volatility in interest rates may compound the problems resulting from a lack of flexibility. An amount offered, or a yield out of line with market conditions, could result in under- or oversubscription of the issue. If interest rates rise during the distribution period or between the announcement and the offering, undersubscription may result; and this could have an unfavourable impact on the attitude of investors. If rates decline, the issue could be oversubscribed; and again, this would not reflect well on government efficiency in debt management. The allotment of an issue on a firm basis to underwriters, and the role played by the Bank of Canada as a purchaser of last resort, contribute to reduce the risk of undersubscription.

Furthermore, the central bank often stabilizes financial markets during federal issue periods. This may not be acceptable from a monetary-policy point of view, and it may be a source of conflict between

the role of the Bank of Canada as monetary regulator and its role as a fiscal agent of the federal government.

Provincial governments also frequently resort to fixed-yield issues over a short period of time. These selling operations have not been considerably affected by the larger federal and provincial deficits. But provincial debt managers and their syndicates have to exert greater care with regard to timing, to avoid floating an issue just before, or right after, a federal one or too close to an issue from another province, particularly if it is a larger one with a better credit rating. This may become more and more difficult as the federal government and most provincial governments are being pushed by their financial situations to resort more frequently to financial markets. Various underwriters have, however, become more aggressive in attempting to secure business from provinces in greater need of external financing. But greater interest rate volatility in recent years has made it more difficult to assess the price and the yield to be offered, and it is certainly more difficult to set them in advance, as was the practice in many provinces where the specific terms of each issue had to be approved by Cabinet.

The auction technique is used by the federal government and some provincial governments to issue treasury bills. There are two different auction techniques: one is called uniform, or "dutch," where the yield received by the purchasers of treasury bills is the yield of the last tranch accepted; the other is the conventional auction technique, where each one pays the price he bids. This is the method used in Canada. At the federal level, treasury bills are offered at regular weekly public auctions on a discount basis; that is, the tenders are made at a price below their redemption price and thus the yield takes the form of a capital gain at maturity. Every week, three- and six-month treasury bills are tendered, and every four weeks, one-year treasury bills are offered for auction. Treasury bills were originally intended to be used for short-term cash management. But they have become a permanent way of financing the longer-term needs of the government of Canada, as the amounts outstanding, particularly recently, do not really fluctuate but move along an increasing trend. The same is true for the provinces that use this method of raising funds, since an active secondary market for treasury bills cannot be maintained if provinces keep going in and out of the market.

The third selling method, known as "selling on tap," is a continuous offering of a security over a longer period of time. Canada Savings Bonds are sold on tap. Selling on tap provides greater flexibility with respect to timing, adjustments to yields, and to the amount sought.

Secondary Markets

The development of efficient secondary markets for government securities is important in achieving long-term, efficient selling operations and continued access to financial markets, and thus in successfully obtaining the needed funds at minimum cost. Indeed, efficient and active secondary markets for government securities facilitate primary selling operations by providing a good indication of the yield required to float a successful issue and by minimizing the spread between the bid and the asked price. For efficient secondary markets to exist, a sizable amount of security outstanding is needed, and this is why some provinces attempt to maintain a continued presence in several markets and will attempt to avoid too much of a drastic decline in the amount of their bonds outstanding at any time. Provinces often use their sinking funds to maintain an active secondary market in their own debt. Quite often the sinking fund is not used to cancel existing debt but, rather, to buy and sell outstanding bonds. The Caisse de Dépôt du Québec plays such a role, as do specific funds in other provinces.

Maturity Structure

Maintaining a balanced structure of the term to maturity of outstanding debt is also an important factor in the achievement of the main objectives of government debt management. A balanced maturity structure helps to minimize financing costs and to give debt managers more flexibility in the timing of their issues. In the late 1950s and early 1960s, the traditional approach to debt management called for long-term issues to minimize what was called "the term-cost risk." Today, public debt managers, particularly at the provincial level, still prefer long maturities, thus pushing further away in time refinancing operations. In recent years, however, there has been a definite shortening of the maturity of the debt at the federal and provincial levels. Cost considerations in periods of high interest rates and a moribund bond market, caused by high and variable rates, pushed debt managers towards the shorter end of the market.

The Efficiency of Financial Markets

The other objectives of debt management may seem secondary, particularly in times of rising deficits when the main preoccupation is to secure the funds needed at the best price. But they are, nevertheless, important and should be kept in mind. Of particular importance is the objective of improving the functioning and efficiency of the Canadian financial system and of providing the securities needed to enable investors to maintain well-diversified portfolios.

Government securities, particularly those offered by the federal government, are considered riskless (or very low-risk) assets; therefore, they complement, to a considerable degree, the securities offered by other issuers, such as corporations, individuals, or financial institutions. As wealth grows over time, it is important that investors have access to government securities in order to achieve a balanced portfolio. But public debt outstanding can only increase if governments are in a deficit position or if they increase their off-budgetary activities funded through borrowing from the public (for example, loans and advances to the private sector or Crown corporations). Similarly, an increase in the money supply, commensurate with noninflationary economic growth, can only be obtained through an appropriate increase in the monetary base – that is, in the currency in circulation plus chartered bank deposits at the Bank of Canada. In order for these two items on the liability side of the Bank of Canada to increase, a corresponding increase in its assets is needed; and this usually comes through the purchase of federal government securities.

It may seem odd to be concerned with a need for some increase in federal government debt outstanding when deficits are close to $30 billion and new federal issues amount to approximately $25 billion a year. But looking towards the future, preoccupation with the efficient functioning of capital markets may call for the persistence of some small deficits.

Innovation in financial markets may also require government assistance because of the externalities involved in the process. In addition, governments may, as a secondary objective, have to increase the availability of savings in Canada – although this source of concern may not presently be so important, given the high level of savings, particularly on the part of households – and to improve the channeling of these to the best investment opportunities. To achieve this objective, governments may wish to develop new instruments better tailored to the needs of the household and corporate sectors. Again, the issuing of such securities may require that governments run small deficits or off-budgetary operations that warrant borrowing on public markets.

C The Relationship between Unemployment and Job Vacancies

To assess the structural changes that may have occurred in the relationship between unemployment and job vacancies during the period 1966-83, we relied upon the following equation:

$$\text{Log } U_t = a + b \text{ Log } HWI_t + cT ,$$

where U_t is the number of unemployed, HWI is the help wanted index (the only available proxy for job vacancies since the discontinuation of the job vacancy survey), and T is a time trend to take account of the annual secular growth of both the labour force and the numbers of advertised jobs.[1]

Running this equation for the period 1966-83, we found a concentration of negative residuals at both ends of the series (1966-69 and 1979-83) indicative of a structural change in the relationship. The first result was as follows:[2]

$$\underset{}{\text{Log } U_t} = \underset{(0.342)}{6.558} - \underset{(0.084)}{0.240} \text{Log } HWI_t + \underset{(0.005)}{0.093} T .$$

$$\bar{R}^2 = 0.960 \qquad DW = 0.82$$

Then we attempted to incorporate that structural change in the equation itself by introducing a dummy variable, with a value of zero for 1970-78 and of one for the two periods 1966-69 and 1979-83, in the following manner:

$$\text{Log } U_t = a' + b'_1 \text{ Log } HWI_t + b'_2 D \times \text{Log } HWI_t + c'T .$$

Thus we allowed for an eventual change in the relationship. The resulting equation was:

$$\text{Log } U_t = \underset{(0.168)}{6.905} - \underset{(0.040)}{0.311} \text{ Log } HWI_t - \underset{(0.005)}{0.039} D \times \text{Log } HWI_t + \underset{(0.002)}{0.097} T .$$

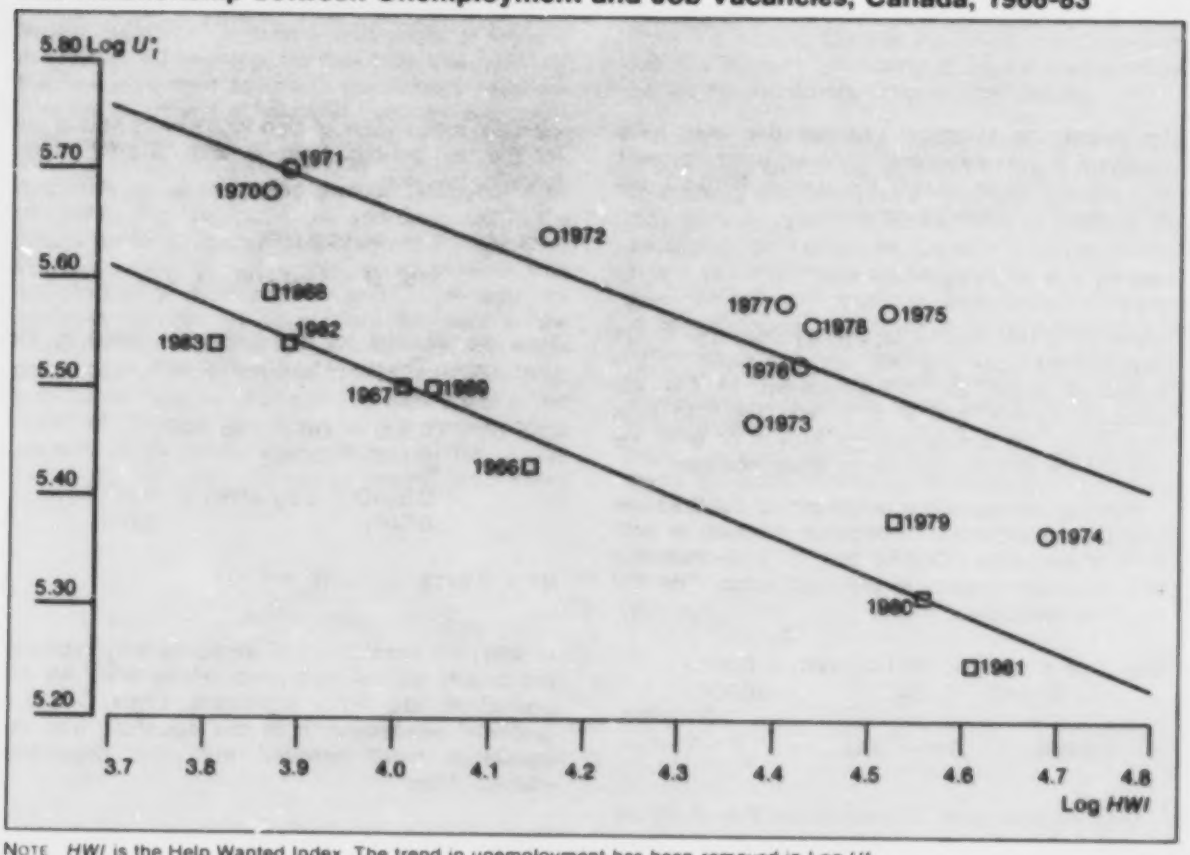
$$\bar{R}^2 = 0.9912 \qquad DW = 1.775$$

In doing this transformation, we significantly improved the quality of the estimated relationship. All the coefficients are highly significant. Chart C-1 is a graphical representation of this equation, with the calculated trend removed from the dependent variable. Thus:

$$\text{Log } U_t^* = \text{Log } U_t - 0.097T .$$

Chart C-1

The Relationship between Unemployment and Job Vacancies, Canada, 1966-83



NOTE *HWI* is the Help Wanted Index. The trend in unemployment has been removed in Log U_t^*.
SOURCE Estimates by the Economic Council of Canada, based on data from Statistics Canada.

Notes

CHAPTER 1

1 A number of other energy tax measures are included in the pricing assumptions. In particular, exemptions from the petroleum and gas revenue tax in the past two federal budgets are accounted for in the determination of revenues from this source. In addition, the February 1984 budget provided for a continuation of the exemption of conventional old oil from the incremental oil revenue tax until the end of May 1985. The tax continues on relevant Suncor production, however. None of these tax measures generate revenues even close to those anticipated when real international oil prices were expected to inflate by 2 per cent annually.

2 Our outlook for the supply of, and demand for, oil is based on information released by Energy, Mines and Resources Canada in May 1984. The natural gas supply ascumptions are taken from the National Energy Board Report published after the Gas Export Omnibus Hearing in late 1982. All gas supplies are assumed to come from conventional nonfrontier areas, with extra capacity being available to support export requirements.

CHAPTER 2

1 Government also has other sources of funds, such as investment income, which are not included in tax revenues.

2 Budget Speech to the Legislative Assembly of Prince Edward Island, March 1964.

3 Organisation for Economic Co-operation and Development, *The Role of the Public Sector* (forthcoming).

4 Morris Beck, "The Expanding Public Sector: Some Contrary Evidence," *National Tax Journal* 29, No. 1 (March 1976):16.

5 Otherwise, the taxes and the transfers do not alter spending patterns, because, in their absence, spending would have likely been redirected in the same way through the voluntary sector. In such circumstances, there cannot be any welfare loss. (It is conceivable, however, that government intermediation might be less efficient than direct transfers through the private sector.)

6 On a per-capita basis, Canada ranked eighth out of 23 countries in 1982, with tax revenues of $4,304 (U.S.). Because this figure is greatly influenced by fluctuations in the exchange rate and the ratio of tax revenues to GDP is not, the latter is a more reliable measure.

7 Social security contributions represented about 11 per cent of total tax revenues in Canada in 1982, compared with almost 28 per cent in the United States, 30 per cent in Japan, and 43 per cent in France.

8 Data for this chapter mainly come from two major sources: the National Accounts, and the Financial Management System (FMS). While 1983 data are generally available from the former source, it is sometimes even difficult to obtain figures for 1981 from the latter. But the FMS is the only source of data on government spending, by function. We have used the latest available figures at time of print.

9 A more detailed description of the evolution of our pension system can be found in Economic Council of Canada, *One in Three: Pensions for Canadians to 2030* (Ottawa: Supply and Services Canada, 1979).

10 Another factor contributing to the rise in unemployment insurance payments is the changing composition of the unemployed, from low- to medium- and high-wage earners, and the increased relative importance of the 25-34 age group of Canadians receiving benefits.

11 The FMS and National Accounts figures on debt charges differ from one another because they are computed on a different basis. The dollar amounts in the text come from the National Accounts. The charts that compare debt charges with other categories of spending are on an FMS basis, as is the discussion on provincial debt charges that follows. While the measure of debt charges on a National Accounts basis differs from that on an FMS basis, the evolution over time is quite similar.

12 Foreign companies may also receive grants but for a much smaller amount.

13 Of all provincial government spending on oil and gas, that of Alberta and Saskatchewan dominates, with transfers to businesses under exploration incentives programs. Provincial spending increased dramatically in the late 1970s, particularly in Alberta. In 1974, transfers to businesses amounted to $15.3 million; by 1982, the amount had risen to $489 million.

14 Economic Council of Canada, *Intervention and Efficiency: A Study of Government Credit and Credit Guarantees to the Private Sector* (Ottawa: Supply and Services Canada, 1982), Chapter 3.

15 This function does not include unemployment insurance and workers' compensation.

16 Inflation was greater in the education than in the health sector. Throughout the 1952-82 period the annual compound rate of growth in health expenditures was 15.3 per cent in nominal terms and 10.1 per cent in real terms, a difference of about 5 percentage points; in education, however, the rates were 13.1 per cent in nominal terms and 4.7 per cent in real terms, a difference of 8.4 percentage points.

17 Economic Council of Canada, *Perspective 1975*, Sixth Annual Review (Ottawa: Queen's Printer, 1969), p. 36.

18 Saskatchewan has had an insurance program in place since 1946.

19 See L. Auer, "Hospital Costs in Canada and Newfoundland," a paper prepared for the Royal Commission on Hospital and Nursing Home Costs in Newfoundland, St. John's, November 1983.

20 If real growth is slower than in the past, it is quite likely that some programs will be cut back to give way to new ones. If ineffective programs, or programs that no longer correspond with the needs of the day, are being dispensed with, the well-being of society will improve. But the dismantling, or downsizing, of programs for which there continues to be a demand could be quite costly in terms of the welfare of the collectivity.

21 International Monetary Fund, *World Economic Outlook: A Survey by the Staff of the International Monetary Fund* (Washington: IMF, 1984).

22 In their evaluation of the cost of tax expenditures, the Department of Finance and analysts at OECD have included items that are more of the nature of forgone revenues than tax expenditures per se. A case in point is the nontaxation of the capital gain on the sale of a principal residence. It is true that this provides a principal residence with a preferential tax treatment not given to other real and financial assets, such as a secondary residence, rental property, bonds, or stocks; however, this capital gain has never been taxed before and is thus a forgone revenue rather than a tax expenditure, the latter being an exemption from existing taxation.

23 The estimates provided by the Department of Finance assume that there will be no change in spending or consumption patterns following the removal of tax expenditures, or that these will not be accompanied by other tax changes. Following modifications to the tax system, individuals and corporations are expected to modify their behaviour; therefore the forgone revenues in Table 2-3 should be viewed as maximum amounts. Also, should the capital gain from the sale of a private residence be taxed, mortgage interest payments would likely become deductible, thus reducing the intake of the federal government. For the same reasons, the amounts in Table 2-3 cannot be added together.

Chapter 3

1 There is a great deal of discussion among economists about whether public borrowing imposes a burden on present or future generations and whether there is a redistribution of income and resources within a generation. Conclusions depend on what is meant by burden, on whether the debt is owed internally or to foreigners, and on the purpose of the debt. For instance, in the case of domestic debt, there is no transfer of financial resources from one generation to another, but there is a shift within a generation from taxpayers to bondholders. Future generations may have to suffer lower consumption if current public spending displaces private investment. But this may also happen with tax-financed spending. Many economists believe, however, that taxes reduce consumption expenditures, while borrowed funds come mainly out of savings. The repayment of foreign debt may involve a transfer of resources out of the country, affecting future generations – particularly if such borrowing finances current spending.

2 See R. Carter and H.-P. Rousseau, "La détermination de la dette des gouvernements au Canada – Le cadre analytique," a study prepared for the Economic Council of Canada, Ottawa, April 1984.

3 Revenues may not be available at the time that public expenditures are incurred. In such circumstances, borrowing could take two forms: trade credit granted by suppliers, or direct borrowing in the form of funded or unfunded debt. Direct borrowing would have to take place abroad to compensate for the temporary, seasonal shortfall in domestic cash income. It is conceivable that taxpayers might borrow to cover their tax liabilities, and no borrowing or deficit financing by the state would be necessary.

4 J. Buchanan and R. E. Wagner, *Democracy in Deficit* (New York: Academic Press, 1978).

5 Provincial governments may only borrow from the public at large; they have no recourse to the Bank of Canada.

6 For borrowing from the public to be effective in stimulating the economy, government bonds have to be treated as assets by Canadians and contribute to increasing their wealth. Should Canadians discount to the present the future tax liabilities needed to liberate the government debt obligations, deficit finance becomes ineffective as a macroeconomic policy instrument because there is virtually no difference – particularly in the eyes of Canadians – between deficit and tax financing. For this to happen, several assumptions have to be verified: the life span of the citizens of a country extends to include that of their children, and bequests take place; distributional problems are assumed away so that the individuals who receive debt interest payments are the same individuals who pay taxes; perfect financial markets, where future liabilities can be fully discounted, do exist. The increase in the saving rate in the 1970s, following closely an increase in deficits, may be an indication that individuals do, to some extent, discount future tax liabilities.

7 Government debt is generally rolled over at maturity. In other words, maturing debt is paid for out of the proceeds of new debt issues. Holders of maturing debt are repaid, even if from the point of view of government, there has been a shift between a new and an old debt. Furthermore, the investors in new issues are not necessarily the holders of maturing debt.

8 The importance of the confidence of investors in the capacity to repay was quite forcefully illustrated by their attitude towards the financial difficulties of Dome Petroleum and of Argentina and Mexico. In fact, the refusal of banks to make additional loans or to roll over existing ones has put these countries in serious difficulty (see Chapter 4).

9 We also expressed our concern in Economic Council of Canada, *Intervention and Efficiency* (Ottawa: Supply and Services, 1982), Chapter 3.

10 Provinces have to repay the total outstanding at maturity. But the repayment of the self-sustained portion, or that part covered by a sinking fund, will not require extra resources. That portion is therefore separated from total debt when calculating the "capacity to repay."

11 R. Carter and H.-P Rousseau, "L'impact du stock de la dette sur le coût des obligations à long terme : le cas de quatre provinces canadiennes," a background paper prepared for the Economic Council of Canada, Ottawa, March 1984.

12 Political factors have played an important role in determining the attitude of investors towards Quebec securities. When the 1961-82 period is broken into two subperiods, the results for Ontario are basically unchanged, showing stability in the determinants of the cost of funds to the province. In the case of Quebec, the 1972-82 subperiod is quite different from the 1961-71 subperiod. The risk premium attached to securities issued or guaranteed by the province is greatly increased, and the values of the coefficient of the yield equation are considerably changed. It is quite possible that a series of political and social events have resulted in Quebec securities being placed in a separate high-risk category. See Rousseau and Carter, "L'impact du stock et de la dette."

13 Some federal Crown corporations do, however, tap international financial markets.

14 Over the whole 1960-83 period, provinces had debt denominated in 14 different currencies. At the very beginning of the period, provinces were borrowing in Canadian and U.S. dollars. Two-pay, and even three-pay, bonds were favoured by many governments. A "two-pay bond" is a security that promises repayment of the principal in either Canadian currency or U.S. dollars, depending on the choice of the investor. A "three-pay bond" offers the option of repaying the principal in Canadian dollars, U.S. dollars, or British pounds. These two-pay or three-pay bonds disappeared in the late 1960s. In the late 1960s and early 1970s, provinces started borrowing on the U.S. Eurodollar market, in European currency units, in Swiss francs and German marks. Only in the late 1970s did they contract loans on the Euro-Canadian-dollar and yen markets.

15 See R. Carter and G. Lambert, "The Real Cost of International Borrowing by the Province of Quebec," unpublished paper, March 1983.

16 See Economic Council, *Intervention and Efficiency*, Chapter 8; and R. S. Damus, *Government Loan Subsidies*, Economic Council of Canada (Ottawa: Supply and Services, 1984).

17 The analysis of crowding-out is based on P. Grady and D. Drummond, "Financial Crowding-Out in Canada," a background paper prepared for the Economic Council of Canada, November 1983.

18 Direct crowding-out may occur for a number of reasons. For instance, government spending could be a direct substitute for private spending, as in the case of expenditures on education or health care, or for that matter, the case of business investment spending financed by grants or tax incentives. Another cause of direct crowding-out would be ultrarational behaviour on the part of households or businesses, which occurs when deficits and taxes are viewed as equivalent, since deficits require future taxes. An additional channel of direct crowding-out results from any adverse psychological impact that the government deficit might have on the spirit of entrepreneurs and on their willingness to invest.

19 One manifestation of financial crowding-out has been labeled "transactions crowding-out." An increase in government expenditures contributes to a rise in national income, thus increasing the demand for money, which, given an unchanged monetary policy, leads to higher interest rates. This causes the interest-sensitive component of private expenditures to decline. The extent of this form of crowding-out is determined by the relative responsiveness of the demand for money to changes in income and interest rates and by the responsiveness of private expenditures to changes in interest rates. The less interest-sensitive the demand for money, the greater the degree of transactions crowding-out. The more interest-sensitive the investment spending, the greater the crowding-out. In the extreme, if investment expenditures were extremely sensitive to interest rates, transactions crowding-out would be complete.

"Portfolio crowding-out" is a second form of indirect crowding-out. Deficit-induced increases in public debt are likely to throw financial markets out of equilibrium. Equilibrium may then only be restored through changes in relative prices. The existence and the extent of portfolio crowding-out will, of course, depend on the substitutability between securities of different maturities and different risks. Basically the main thrust of portfolio crowding-out analysis is to determine the impact of changes in yields of government debt on the yield of corporate debt and equity and on the real price of capital. It is ultimately, of course, the impact on the real price of capital that will determine whether there is crowding-out. An increase in the yield on corporate debt or corporate equity resulting from an increased deficit would lead to crowding-out, while a decline in the yield would, on the contrary, be conducive to increased economic activity. More recent work concentrates on the covariance between the yield on various government bonds and the yields of private securities, such as corporate debt, equity, and real capital.

20 Morgan Guaranty Trust Company, *World Financial Markets*, New York, January 1984.

21 The effects on interest rates and investment in Canada of a once-and-for-all increase in the U.S. deficit of 1 per cent of GNE will be similar to those of a permanent increase in the first two years, but the impact diminishes over subsequent years and in some cases even reverses.

22 For 1984 the ratio of federal debt charges to total expenditures is estimated at 18.1 per cent of total spending when transfers to other levels of government are included and at 22.1 per cent when they are not.

23 In a recently released study by the C. D. Howe Institute, Bruce and Purvis argue that the ratio of public debt to GNE should stabilize at a given target level. "Prudent" fiscal policy would lead to the realization of that level. They arbitrarily choose as a target the ratio prevailing in 1979 and conclude that for this level to be achieved the federal deficit "should fall by about $20 billion from its projected 1984 level." While we agree that the ratio of debt to GNE should stabilize, it is not by any means clear why we should aim for the 1979 level. Bruce and Purvis do not present a convincing argument to support their choice of target; see N. Bruce and D. Purvis, *Evaluating the Deficit: The Case for Budget Cuts*, Policy Commentary No. 4 (Toronto: C. D. Howe Institute, 1984).

24 The different assumptions used are:

Case 1 - Nominal GNE will grow at 9 per cent (real GNE, at 4 per cent); federal revenue will grow at 10 per cent and total expenditures at 8 per cent per annum; and nominal interest rates will continue at 11 per cent per annum.

Case 2 - The same as Case 1, except that the nominal interest rate will be 9 per cent, and expenditure growth will be constrained at 7 per cent.

Case 3 - GNE will grow at 8 per cent; interest rates will be 11 per cent in the first year, 10 per cent the second year, 9 per cent the third year, and 8 per cent in the final years being considered; government expenditures will be $2 billion below a 7 per cent growth track in 1985 and $4 billion below it in 1986, and from 1987 on, they will follow a 7 per cent growth track from 1986 levels; and government revenues will be $2 billion above a 9 per cent growth track in 1985 and $4 billion above it in 1986, and they will then follow a 9 per cent growth track from 1986 levels.

CHAPTER 4

1 The financial ratios are discussed on a book-value basis, since market-value data for smaller corporations are unavailable. Over the 1962-82 period, debt-to-asset ratios on a market-value basis moved along a trend similar to that of the ratios on a book-value basis, but the fluctuations around the trend were much more pronounced. Market- and book-value ratios are highly correlated; see R. G. Bowman, "The Importance of a Market-Value Measurement of Debt in Assessing Leverage," *Journal of Accounting Research* (Spring 1980):242-54. And book-value ratios are used to predict bankruptcies; see W. H. Beaver, "Financial Ratios as Prediction of Failure," *Empirical Research in Accounting: Selected Studies, 1966*, supplement to *Journal of Accounting Research* (1966):71-111. These results are discussed at length and endorsed in George Foster, *Financial Statement Analysis* (Prentice Hall: New Jersey, 1978).

2 Deferred taxes have also been treated as equity. See Jean-Marie Gagnon and Benoît Papillon, *Financial Risk, Rate of Return of Canadian Firms, and Implications for Government Intervention*, Economic Council of Canada (Ottawa: Supply and Services Canada, 1984).

3 See K. Patterson and A. Ryba, "Financial Risk and Rate of Return of Canadian Firms: An Update," Economic Council of Canada, forthcoming.

4 William Mackness, "The Need for Equity Capital," *Policy Options* (July/August 1984).

5 The evolution of debt-to-asset ratios and profitability is discussed in greater detail in Patterson and Ryba, "Financial Risk."

6 This comes out clearly in Gagnon and Papillon, *Financial Risk*.

7 Economic Council of Canada, *Intervention and Efficiency: A Study of Government Credit and Credit Guarantees to the Private Sector* (Ottawa: Supply and Services Canada, 1982); and Gagnon and Papillon, *Financial Risk*.

8 See, for example, Paul Marsh, "The Choice between Equity and Debt: An Empirical Study," *Journal of Finance* (March 1982).

9 Stewart C. Gilson, *The Inflation-Adjusted Rate of Return on Corporate Debt and Equity: 1966-1980*, Bank of Canada Technical Report No. 39 (Ottawa, 1984).

10 S. G. Buell and E. Schwartz, "Increasing Leverage, Potential Failure Rates and Possible Effects on the Macro-Economy," *Oxford Economic Papers* (November 1981).

11 cf. Economic Council, *Intervention and Efficiency*, Chapter 3.

12 Balance-sheet restructuring in 1983 and 1984 has been cited as one of the causes of our weak investment performance by Mackness in "The Need for Equity Capital" and by the Toronto Stock Exchange, among others. The latter clearly shows the "trade-off between improved financial risk and business asset growth. The same amount of new equity could provide for substantial reduction of risk and less growth or limited reduction of financial risk and more growth." See Toronto Stock Exchange, *The Financial Health of Canadian Corporations: Reducing the Debt Load and Financing Growth* (Toronto: TSE, 1984), p. 27.

13 See E. Wayne Clendenning, *The Euro-Currency Markets and the International Activities of Canadian Banks*, Economic Council of Canada (Ottawa: Supply and Services Canada, 1977).

14 For the five largest Canadian banks, after-tax profits from foreign sources rose from 26.8 per cent of total profits in 1976 to 44.6 per cent in 1980; see A. Raynauld, J.-M. Dufour, and D. Racette, *Government Assistance to Export Financing*, Economic Council of Canada (Ottawa: Supply and Services Canada, 1984), p. 35 and Table C-3.

15 This is the situation as this Review is going to press. Changes occur fast on the international financial scene. For instance, the Philippines appear now to be the next candidate for a major rescheduling.

16 Estimates from the recently released Lord Lever Report, *The Debt Crisis and the World Economy: Report by a Commonwealth Group of Experts* (London: Commonwealth Secretariat, 1984).

17 It is difficult to build consistent statistical series over time for the ratio of debt service to exports just as it is

for any figures pertaining to the debt of less developed countries. Various studies and official publications present data on different bases without ensuring their historical consistency. Notwithstanding these difficulties, it is estimated that the ratio of long-term debt service to exports for Brazil increased from 40.1 per cent in 1975 to 63.5 per cent in 1979. In 1982 it had reached 88 per cent according to the numbers in Table 4-4; but the previous series and this figure are not calculated on the same basis. Argentina saw the ratio of debt service to exports climb from 1975 on, until 1982 when it reached close to 100 per cent. Mexico's ratio of debt service to exports climbed from 39 per cent in 1975 to 70.2 per cent in 1979.

18 Lord Lever Report, p. 18.

19 In fact, Argentina – which has been viewed by observers as the catalyst of a cartel of debtors – is the object of "peer" pressure from Brazil, Mexico, and Venezuela to come to terms with its creditors.

20 Repudiation has been a source of concern for many – even bankers (*Wall Street Journal*, July 5, 1984, p. 17). Reference to the possibility of repudiation can be found in various documents but is always discounted; see F. Ma, "The International Debt Situation," speech to the Eleventh Annual Financial Conference of the Conference Board of Canada, May 4, 1984; and T. Enders and R. Mattione, *Latin America: The Crisis of Debt and Growth* (Washington: The Brookings Institution, 1984). Cline, in a recent publication, shows that for many countries the incentives to default have increased. He points out that for all the nonoil LDCs "the ratio of interest payments to net new borrowing (from all sources) rose from an average of 30 per cent in 1975-78 to 55 per cent in 1979-81 and 103 per cent in 1982, when interest payments actually exceeded new borrowing." The ratio was 93 per cent for Brazil and 220 per cent for Argentina. "The implication of this trend is that the incentive for adherence to the normal rules of international lending has been decreasing because increasingly every cutoff of new lending would be offset by termination of interest payments if developing countries chose to default." But Cline also notes that the consequences of default extend beyond the loss of new credit. See W. R. Cline, *International Debt and the Stability of the World Economy*, Institute for International Economics (Cambridge: MIT Press, 1983).

21 In recent years, spreads on rescheduled loans have ranged from 1.5 to 2.5 per cent above LIBOR or the U.S. prime rate, and a renegotiation fee of 1 per cent of the amount rescheduled has often been charged.

22 See Lord Lever Report.

23 In fact a few LDCs account for most of the exposure of all commercial banks. According to the Lord Lever Report, Brazil, Mexico, Argentina, and Korea account for 62 per cent of the gross exposure of commercial banks (worldwide) to LDCs. Adding Venezuela, the proportion becomes much higher. As noted, most of the debt of the lower middle-income and low-income LDCs is owed to official sources. The plight of these countries is a serious source of concern, as it affects the livelihood, if not the survival, of many underprivileged people; but it does not endanger commercial banks or the stability of the international financial system.

24 For instance, had both Brazil and Mexico interrupted interest payments in the year 1983, lost interest would have exceeded the earnings for that year of the Bank of Montreal and the National Bank, affecting their equity base.

25 Syndicated loans include rigorous provisions for achieving equity among participants. A bank may face difficulties, however, where it has a considerable amount of direct loans to a given borrower.

26 A U.S. bank that lost the confidence of its foreign depositors mainly because of domestic problems.

27 It is conceivable but very unlikely that the government of Canada, or any other government for that matter, would protect only its domestic depositors in case of a banking difficulty. Such a move would most certainly undermine the trust essential to the international financial system and be very costly for everyone.

28 A recent analysis showed that a moratorium on interest payments by Brazil, Mexico, Venezuela, and Argentina would further reduce the earnings of the five large Canadian banks – in some cases, quite dramatically. See Mary B. Lesslie, "Blame It on Rio: A Report on the Five Major Chartered Banks," Nesbitt Research, July 5, 1984.

29 Bank lending has been slow in 1983-84 mainly because of a lack of demand.

30 International Monetary Fund, *World Economic Outlook*, (Washington: International Monetary Fund, 1984), p. 68.

31 Lord Lever Report, pp. 67-73.

32 "This relationship varies by country types. For countries with especially large debt relative to exports, interest rates have somewhat more effect. Thus for Brazil and Argentina one basis point in OECD growth has the equivalent impact of 5.7 and 4.5 basis points in the interest rate.... For oil exporters, whose principal export does not respond to OECD growth, the relative growth impact is even smaller; one basis point in OECD growth is the equivalent of 2.7 basis points in interest rates for Mexico." See Cline, *International Debt*, p. 65.

33 See Lord Lever Report for a detailed listing of proposals.

CHAPTER 5

1 Economic Council of Canada, *People and Jobs* (Ottawa: Supply and Services Canada, 1976).

2 There are, of course, difficulties with cross-country definitions of who is, and who is not, unemployed or in the labour force. Nonetheless, analyses of labour markets in both North America and Europe show that there is much less ebb and flow into the labour market in the latter. Over the 1975-83 period, Canada and the United States recorded annual employment growth rates of 1.4 and 2.0 per cent, respectively, while

France reported zero growth, and Germany and the United Kingdom had negative rates.

3 James Tobin "Impasse of the 1980s: Locomotives Who Can't or Won't," *The World Economy* 7, no. 1 (March 1984):5-21.

4 Organisation for Economic Co-operation and Development, *Canada*, Economic Surveys Series (Paris: OECD, 1984).

5 See Labour Canada, Press Release, August 29, 1984.

6 See Sunder Magun, "The Effects of Technological Changes on the Labour Market in Canada," Paper presented to the Canadian Economics Association, Guelph, May 1984.

7 We acknowledge that the work we report on in this section is still very crude. Technological change should be more appropriately named "structural change," since the changes we are dealing with do not disentangle technological change from the relative price adjustments and the scale effect. Interactions among these factors make the complete separation of these effects practically impossible with the data at our disposal. Furthermore, factors like international trade and capital formation may affect the production process; in this analysis, they are compounded with final demand. The Council intends to expand this analysis and improve upon the methodology.

8 For this analysis, the selection of the two industries was based upon the previous findings supported by Table 5-3. The unemployment experience of individuals was traced with the help of the Longitudinal Labour Force File maintained by the Department of Employment and Immigration.

9 The Robot Institute of America defines a robot as a "reprogrammable, multifunctional manipulator designed to move material, parts, tools or specialized devices through variable programmed motions for the performance of a variety of tasks." Japan is now the foremost producer and user of robots, as well as the world's leading producer of computerized automation in general. The United States follows. Many U.S. companies that expect to become large robot users are themselves establishing divisions to develop expertise in robots and other forms of automation, sometimes through agreements with foreign – usually Japanese – producers. General Motors, IBM, General Electric, Bendix, and Westinghouse are notable examples. In Western Europe the leading producers are Sweden and Germany. In all, it is estimated that the growth rate in the industrial robot stock for these and other major user countries will average between 20 and 30 per cent annually over the 1985-90 period; see Organisation for Economic Co-operation and Development, *Industrial Robots: Their Role in Manufacturing Industries* (Paris: OECD, 1983).

10 A showcase for some of these technologies is Apple Computer's new factory in Fremont, California. This factory is designed so that 300 workers can produce half a million Macintosh computers yearly. The labour costs of the Macintosh computer are reported to be less than 1 per cent of total manufacturing costs. Apple's Fremont factory is perhaps indicative of the potential of the "repatriation" of manufacturing operations from foreign countries. After considering the common approach of offshore manufacturing, the management of the Apple corporation decided in favour of building, in the United States, a highly automated factory with a "just-in-time" inventory system as a more cost-effective approach. Should the use of advanced manufacturing technologies create such a trend towards more North American manufacturing, Canada might be well positioned to benefit because of having available the raw materials required by the manufacturing sector. In the future, proximity to raw materials could become an important factor in corporate decisions on factory locations.

11 The Canada Consulting Group Inc., *The Information Economy*, A Report for the Ontario Ministry of Transportation and Communications, Toronto, 1984.

12 J. Rada, *The Impact of Micro-Electronics*, International Labour Office (Geneva: ILO, 1980).

13 See U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review* (November 1983).

Chapter 6

1 Organisation for Economic Co-operation and Development, *Economic Outlook* (Paris: OECD, July 1984), p. 10.

2 Economic Council of Canada, *A Time for Reason*, Fifteenth Annual Review (Ottawa: Supply and Services Canada, 1978), pp. 115-17.

3 Economic Council of Canada, *On the Mend*, Twentieth Annual Review (Ottawa: Supply and Services Canada, 1983), p. 104.

4 Economic Council of Canada, *On the Mend*, p. 101.

Appendix B

1 Organisation for Economic Co-operation and Development, *Government Debt Management: Objectives and Techniques*, Vol. 1 (Paris: OECD, 1982).

Appendix C

1 For a further discussion of this relationship and of factors contributing to shifts in the relationship, see R. A. Jenness, *Manpower and Employment – Problems and Prospects*, Organisation for Economic Co-operation and Development (Paris: OECD, 1978).

2 Standard errors are in parentheses.

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Thanks are also due to Fran Peake and Mary Rowe, secretaries, and to various support groups at the Council, in particular the Statistical Services, the Word Processing Unit, the Communications Division (including the Translation Section), and the Registry Service, for their contribution to this report.